FIRE ENGINEERING

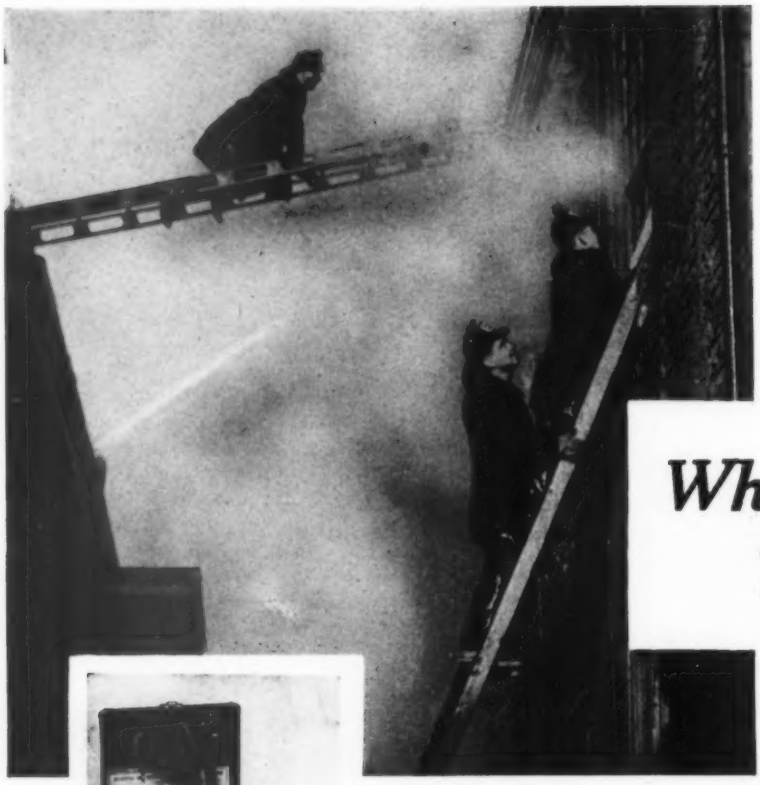
The Journal of the Fire Protection Profession Since 1877

OHIO STATE UNIVERSITY

OCTOBER, 1945

Fireman, Protected by Water Spray, Attaches Cable to Wreckage at Oil Well Fire for Removal by Bulldozer (See Article Elsewhere in This Issue)

A CASE · SHEPPERD · MANN PUBLICATION

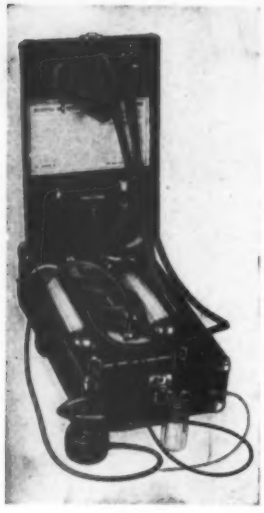


When Asphyxia Threatens

You can fight it best with the

EMERSON

RESUSCITATOR



★ ★

Write for literature or a demonstration before your rescue squad.

Smoke is as dangerous a menace to human life as the flames themselves! Asphyxia victims require ***immediate*** as well as dependable means of regaining and sustaining life-giving breath.

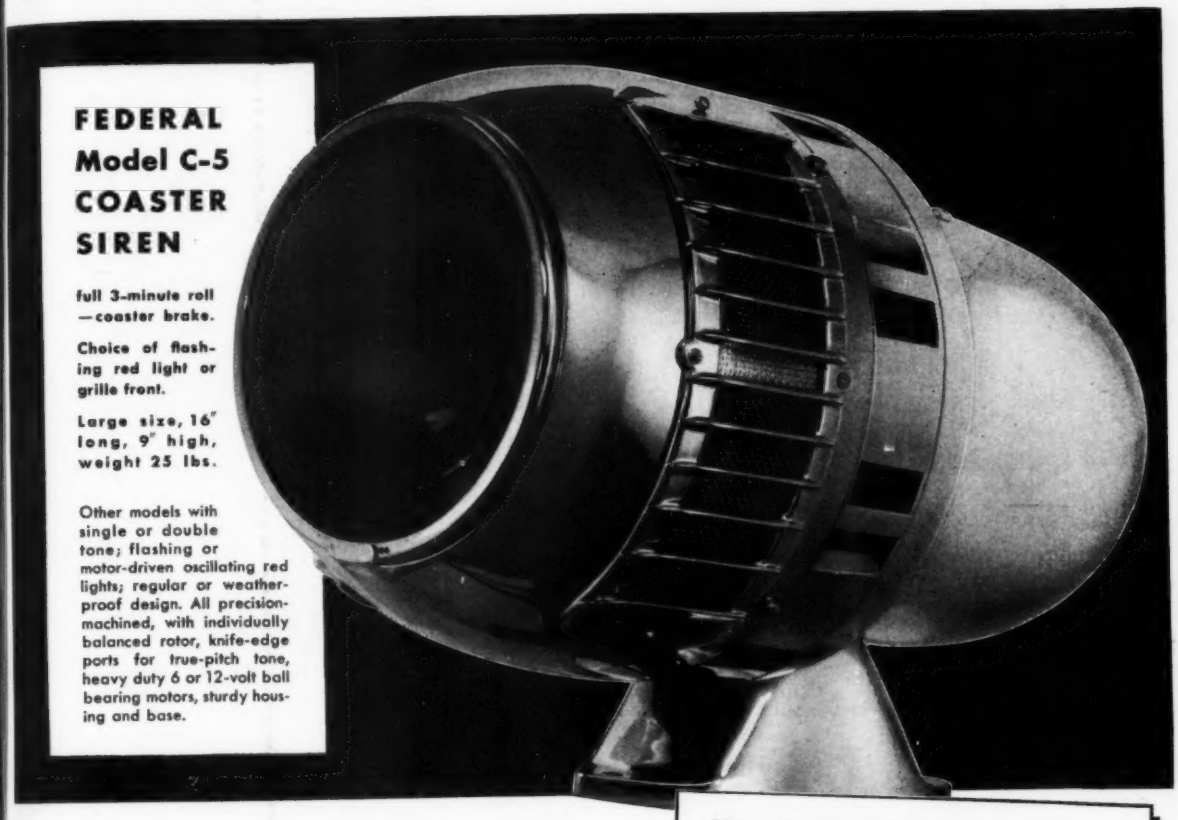
Your next alarm might include the problem of smoke suffocation. Whether it be that or gas poisoning or electric shock, you will want to have immediately available the simplest, most efficient and dependable life-preserving apparatus serving the fire industry today.

J. H. EMERSON COMPANY

Representatives in Principal Cities

22 COTTAGE PARK AVENUE • CAMBRIDGE, MASS.

Get the PROTECTION you need



FEDERAL Model C-5 COASTER SIREN

full 3-minute roll —coaster brake.

Choice of flashing red light or grille front.

Large size, 16" long, 9" high, weight 25 lbs.

Other models with single or double tone; flashing or motor-driven oscillating red lights; regular or weatherproof design. All precision-machined, with individually balanced rotor, knife-edge ports for true-pitch tone, heavy duty 6 or 12-volt ball bearing motors, sturdy housing and base.

...On your new equipment specify this big FEDERAL COASTER SIREN

When you order your new equipment, *specify* the siren that will give you maximum protection, absolute dependability. Federal Sirens are designed scientifically to assure a powerful, penetrating tone, and are built for instant starting, dependable, long-life operation, with a minimum of maintenance. Model C-5 Coaster Siren shown above is a big, powerful siren, designed especially for emergency vehicles requiring a deep, powerful warning to assure safety to other vehicles and pedestrians. Get details and prices on this and other Federal Sirens—write for bulletins today.

How Dependability and Power are built into FEDERAL Sirens

Cast aluminum or die-cast zinc alloy rotors, accurately machined and individually balanced. Knife-edge ports assure even cut-off and true pitch for penetrating roaring tone. Thin, smooth rotor blades handle large air volume with minimum current consumption.

Get this Bulletin FREE

Details, illustrations, and prices on this and other Federal vehicle and fire alarm sirens. *Write today.*

FEDERAL ELECTRIC COMPANY, INC.

SIREN HEADQUARTERS

REG. U.S. PAT. OFF.

8702 SOUTH STATE STREET, CHICAGO 19, ILLINOIS

It will help you if you will mention FIRE ENGINEERING *when writing advertisers*

FIRE ENGINEERING

A Consolidation of Fire and Water Engineering, The Fire Engineer and Fire Protection

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

68 Years—on the Jump!

IN its 68 years of publishing experience—yes, FIRE ENGINEERING celebrates *another birthday* next month—this journal has endeavored to maintain progressive vitality throughout all its editorial and advertising pages—a vitality expressed by its furtherance of every idea and ideal that will advance the interests of better, more scientific, and resultful fire prevention and fire suppression.

- There is nothing static about fire fighting, the fire service, or Fire Engineering.

- Just as down the years, the never-ending battle with fire produces new problems for the fire-fighter and fire prevention engineer, so there can be no letup in the effort to find new techniques, methods, apparatus and appliances to successfully solve these problems.

- The task of faithfully and fully recording and reporting this "war of movement" for the fire service of today, and tomorrow, likewise is anything but static.

- We like to believe the ever-growing reader and advertiser audience of Fire Engineering is the result of this 68-year "young" publishing "vitality."

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Works Engineering, Sewage Works Engineering*, etc. ¶Subscription price U. S. and Latin America, $2.50 a year; Canada, $3; Foreign, $3.50; Single copies, 25c. ¶Member of Audit Bureau of Circulations and Associated Business Papers, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879. ¶Contents of this issue copyrighted, 1945, by Case-Shepperd-Mann Publishing Corp. President and Advertising Director, KARL M. MANN; Vice-President and General Manager, I. HERBERT CASE; Secretary and Editorial Director, FRED SHEPPERD; Assistant Advertising Director, WALTER H. FREDRICKS; Advertising Manager, WILLIAM J. GIBSON; Circulation Manager, W. H. TOPHAM. CHICAGO OFFICE: W. S. CLEVENGER and L. M. ROCHE, 6 No. Michigan Ave., Chicago 2, Ill.; SAN FRANCISCO: CHARLES H. WOOLLEY, 605 Market Street, San Francisco 5, Calif.; LOS ANGELES: AUGUST HAURIN, 6000 Miramonte Blvd., Los Angeles 1, Calif. ¶Printed in U. S. A.

A CASE-SHEPPERD-MANN PUBLICATION
"Specialized Leadership"

for OCT

MACK MANUFACTURING CORPORATION, FIRE ENGINE DEPARTMENT, EMPIRE STATE BUILDING, NEW YORK 1, N. Y.

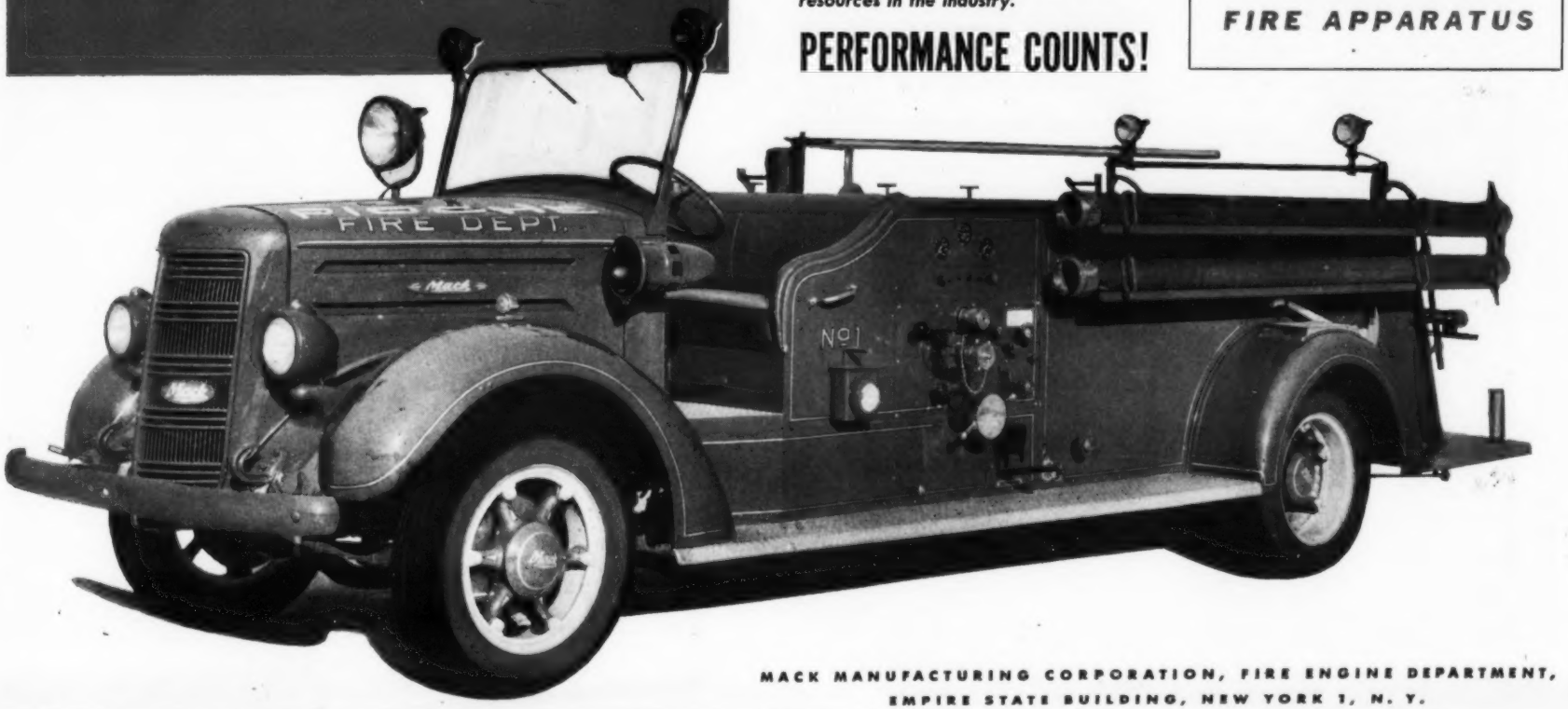
Pioche picks a Pumper!

Only the very best would do for the Pioche, Nevada, Fire Department when it decided to buy a new fire engine. It chose this Mack Type 45, which passed the Underwriters' test at an altitude of approximately 6,000 feet, and generally demonstrated—once again—that Mack's slogan, "Performance Counts," really means what it says.

If your community needs additional fire-fighting equipment or replacements, think of Mack. Remember, Mack Fire Apparatus is backed by the greatest engineering resources in the industry.

PERFORMANCE COUNTS!

Mack
FIRE APPARATUS



MACK MANUFACTURING CORPORATION, FIRE ENGINE DEPARTMENT,
EMPIRE STATE BUILDING, NEW YORK 1, N. Y.

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FMC HIGH VELOCITY
AND FINELY ATOMIZED WATER

Fight Fires the Modern Way with FMC High-Pressure Fog

You get action—*fast*—with the FMC High-Pressure Fog Fire Fighter.

And here's why! The high pressure gives you a combination of finely-atomized water and high velocity (adjustable to lesser velocity when required)—just what you need to *blast, cool* and *smother* flame.

Get to the source of the fire with water vapor.

The result? The blazing material quickly cools, and the temperature drops below the combustion point.

This has been proven at thousands of fires. Residence, barn and basement fires, as well as grass and forest fires.

But remember: *it's the pressure that counts!* And only the FMC High-Pressure Fog Fire Fighter packs the needed punch to produce and maintain 800 lbs. pump pressure—more than 600 lbs. nozzle pressure, and yet not dangerous because of this pressure.

RESTRICTIONS LIFTED! It's not a bit too early to start plans for the modernization of your department. FMC High-Pressure Fog Fire Fighters already ordered are now being delivered. Orders placed can well insure early delivery.

FMC FOG FIRE GUNS IN ACTION! *Man at right is using the Semi or Halfway Fog while man at left has adjusted control to secure the Full Fog Cloud. Main illustration shows carrying power and reach of the fog and is not necessarily an example of fighting fire with fog.*

STANDARD FMC FOG FIRE FIGHTER. *A self-contained fire-fighting unit. Carries its own water supply and complete fire-fighting equipment. Provides two guns of 30 gallons each at 600 lbs. nozzle pressure.*

FMC *Original* HIGH-PRESSURE FOG FIRE FIGHTER

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY CORPORATION

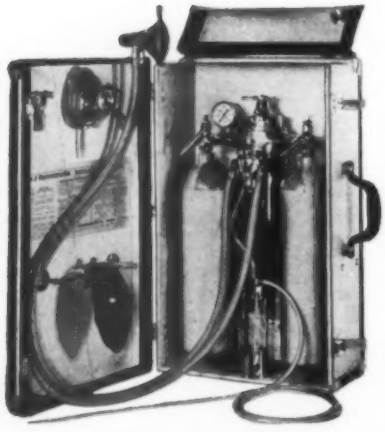
JOHN BEAN MFG. CO., 709 HAZEL ST., LANSING 4, MICH. • BEAN-CUTLER DIVISION, 409 JULIAN ST., SAN JOSE, CALIF.

PUMPS FOR OVER SIXTY YEARS

"Very Satisfactory Results" at TARENTUM, PA.

with the —

E & J RESUSCITATOR INHALATOR and ASPIRATOR



The Eureka Hose Company of Tarentum, Pa., which for the past several years has given valiant service to the people of that progressive community, is mighty proud of its E & J Resuscitator, Inhalator and Aspirator.

This wide-awake fire company, under the able guidance of Mr. Ken Larkin, purchased their E & J in August, 1944. Since then it has been used several times, with "very satisfactory results." The ambulance which carries the E & J made almost 700 calls last year, with the assurance that the best equipment that money could buy was immediately available.

This is another typical example of the hundreds of small communities in the United States that have installed the E & J and are thereby able to offer a life saving service to their citizens on a par with large cities.

★ ***For further information write any of our distributors listed below.*** ★

E & J MANUFACTURING CO., GLENDALE, CALIF.

Detroit, Mich. Boston Chicago

3032 W. 25th Ave., Denver, Colorado 5005 Euclid Ave., Cleveland, Ohio

Pioneers and Specialists in Mechanical Artificial Respiration

It will help if you will mention FIRE ENGINEERING *when writing advertisers*

AKRON APPARATUS ANGLE ELBOW

Use of the Akron Angle Elbow offers several important advantages. It equalizes the strain on the hose—reduces the time of making hose connections—increases hose laying efficiency by as much as 100 per cent.

The elbow swivels to right or left, and by equalizing strain on the hose it prevents cracking—greatly lengthening the life of the hose.

Made only for 2½" hose lines.

This illustrates elbow attachment of hose to apparatus in contrast with straight attachment.

AKRON BRASS MFG. COMPANY, Inc., WOOSTER, OHIO

AKRON BRASS
FIRE FIGHTING EQUIPMENT

Announcing

THE POST WAR MODELS OF NEW FIRE APPARATUS by AMERICAN-LAFRANCE

Since Pearl Harbor, men in the fire service have anticipated with increasing interest new post war models of fire apparatus. They have generously cooperated in design surveys to provide suggestions and ideas for greater utility, ease of handling and higher operating efficiency.

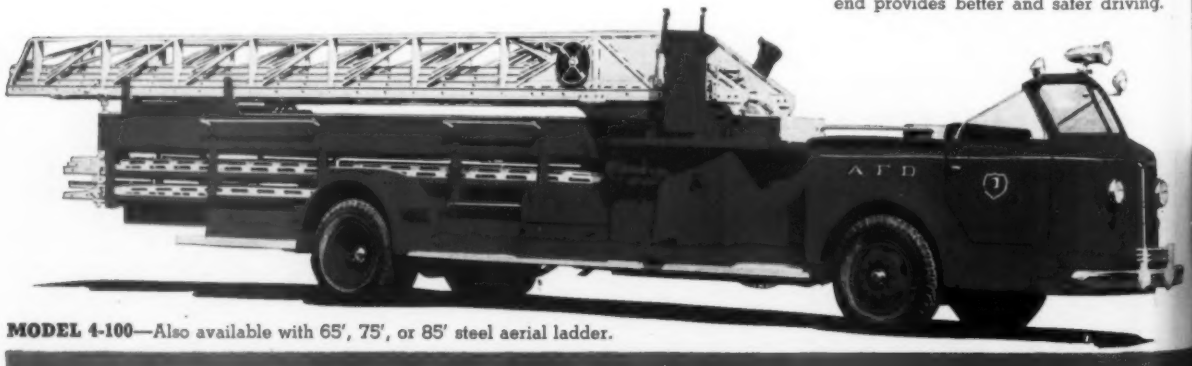
American-LaFrance engineers have incorporated these excellent features, with war proved technical processes and construction, to provide you with this basically improved new line of post war fire engines.

YOUR POST WAR AERIAL

Has more visibility—It is narrower in appearance and dimension—shorter turning radius—seating capacity for 5 men—balanced load distribution—more accessibility—more compartments for equipment mounting.

Pilot models have been completed and are available for inspection and demonstration at the factory. Production will start in the early Spring of 1946 for mid-summer delivery.

All-around visibility and narrowed front end provides better and safer driving.

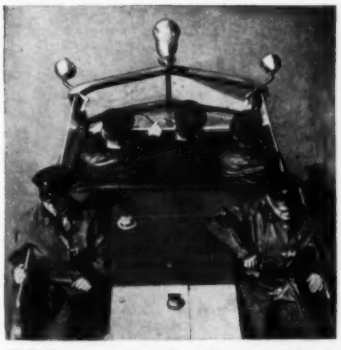


MODEL 4-100—Also available with 65', 75', or 85' steel aerial ladder.

METROPOLITAN, 1250 G.P.M. pumper.
Same design available in all N.B.F.U. standard capacities.

YOUR POST WAR PUMPER

Another example of American LaFrance leadership in serving the fire departments. More visibility—5 man seating with easy exit at the side—big equipment compartments—shorter wheel base—better acceleration and hill climbing ability—more accessible—more equipment mounting space—2½ inch suction inlets (in addition to standard suction inlets)—provision for front or rear suction.



Full 5 man seating for all open and cab models. Ease of entrance and exit is a feature.

Leadership AS ALWAYS WITH

more VISIBILITY for the driver—no long hood — weather protection with high windshield, doors and half glass. Siren and flasher light mounted high for long range warning.

more MANEUVERABILITY with short wheel base (150 inches on 750 gallon pumper, 160 inches on 1250 gallon pumper). Narrow streets and traffic are no problem with these new models.

more UTILITY is provided by more equipment compartments (weatherproof) and a big equipment box in front of body—more running board space for equipment—larger water tank—larger hose body.

more EASILY SERVICED with new engine location—pump easily serviced without disturbing hose or water tank—in brief, every unit subject to inspection or servicing has been made easily accessible for your convenience.

Write for folder illustrating the many advanced features of this new line of American LaFrance post war models. All standard types and capacities will be available in this new modern design.

AMERICAN-LA FRANCE-FOAMITE CORPORATION
ELMIRA, NEW YORK, U. S. A.
LA FRANCE FIRE ENGINE AND FOAMITE LIMITED
TORONTO, 9, ONTARIO, CANADA

Seagrave

THE GREATEST NAME IN FIRE APPARATUS

This Name on Fire Apparatus Means:

- ☆SEAGRAVE EXPERIENCED ENGINEERING AND SKILLED MECHANICAL CONSTRUCTION
- ☆SEAGRAVE DESIGNED AND BUILT FIRE SERVICE MOTORS
- ☆SEAGRAVE TIME-TESTED CENTRIFUGAL PUMPS
- ☆SEAGRAVE BUILT ALL-STEEL BODIES. EXTRA SAFE, EXTRA STURDY, EXTRA ROOMY
- ☆SEAGRAVE BUILT SAFETY STEEL AERIAL LADDERS WITH HYDRAULIC OPERATION

It means that for more than sixty years Seagrave has been proving that the most dependable and trouble-free Fire Apparatus is that which is designed and built exclusively for Fire Service and for no other purpose. The best Fire Apparatus bears the name Seagrave.

The Seagrave Corporation — Columbus, Ohio

Bickle-Seagrave, Ltd., Woodstock, Ont.

"BEAN SOUP" SMOTHERS FLAMES

Arrows point to easily accessible cans of Aer-O-Foam, over 4,000,000 gallons of which have been supplied to the U. S. Navy to extinguish fires.

Official U. S. Navy Photograph

Aer-O-Foam Quickly Puts Out, *and* Keeps Out, Gasoline, Oil and Other Serious Fires

DEVELOPED by National Foam System, Aer-O-Foam, or "Bean Soup" as the U. S. Navy respectfully calls it, not only fully extinguishes fire, but it insulates threatened areas by clinging to any surface, upright or flat, and flows freely to stop any flames from spreading.

Thick, tough and enduring, National's Aer-O-Foam prevents flashbacks by thoroughly smothering flames or gases. Either low or high-pressure hose effectively spreads a heavy blanket of fire-destroying foam.

Water, in stream or in fog, sometimes helps control fires until foam can be applied quickly from handy five-gallon cans easily carried to any danger point.

National Foam's engineers are ready to help you solve your fire problems—and Aer-O-Foam is once more available for civilians.

IN FIRE DEPARTMENT SERVICE

National Foam System has equipment especially designed for use of Fire Departments to meet all types of foam fire fighting requirements.

NATIONAL FOAM SYSTEM, INC.

SPECIALIZING IN FOAM FIRE PROTECTION

Packard Building, Philadelphia 2, Pa.

HE CAN CHOP WOOD

BUT CAN HE TRIM A CHOP?

THE RIGHT EXTINGUISHER FOR EVERY FIRE • THE RIGHT

Every man to his own trade. Felling trees is one trade, trimming a pork chop is another. Each is the job of a specialist.

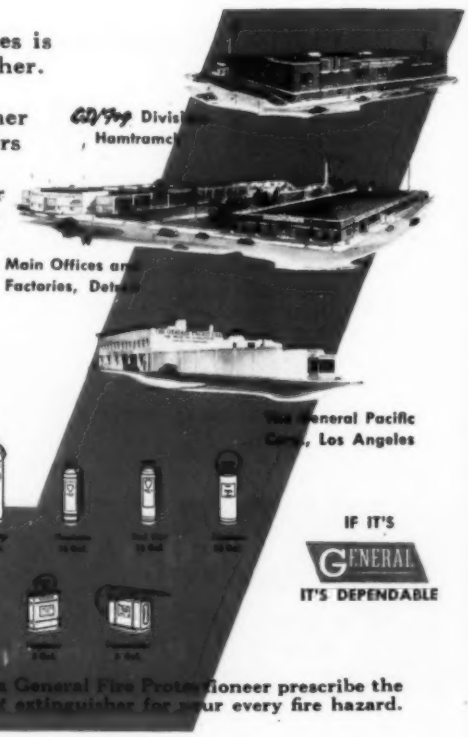
Every fire extinguisher has its own job. No *one* extinguisher is equipped to fight *all* fires. Some are best for gasoline, others for electrical, still others for rubbish, paper, and wood.

To be safe, be sure you have the right extinguisher for your every fire hazard. A trained General Fire Protectioneer will be glad to assist you, and show you the complete line of Underwriters' approved fire extinguishers made by General Detroit.

Call your local distributor or write direct.

Above: ***GD/Foy****, carbon dioxide extinguisher, is recommended for oil, grease, flammable liquid, illuminating gas, and gasoline fires. It is clean, odorless, and stainless—can be used directly on food without harm.*

Remember—you need fire extinguishers in your home and that hard-to-replace automobile



IF IT'S GENERAL IT'S DEPENDABLE

Let a General Fire Protectioneer prescribe the right extinguisher for your every fire hazard.

THE GENERAL DETROIT CORP.

2270 E. JEFFERSON AVE., DETROIT 7, MICH.

Distributors in principal cities

CHICAGO DALLAS NEW YORK

West Coast Affiliate: The General Pacific Corp.

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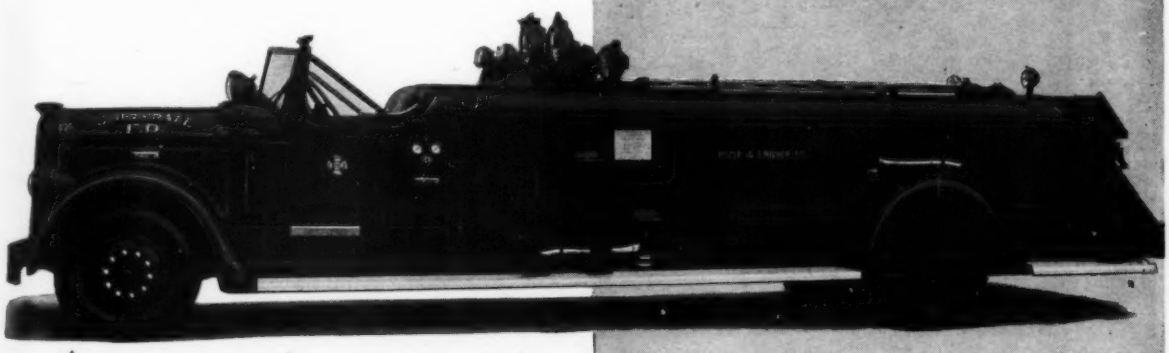
EXACTLY RIGHT.....

for Uniondale, L.I.



Ward LaFrance Quadruple truck recently delivered to Uniondale, L. I.

ENGINE: 6 Cylinder Ward LaFrance
WHEELBASE: 242-⅝
OVERALL LENGTH: 31 ft. 3 in.
HOSE CAPACITY: 800 ft. 2½ in. D.J. Fire Hose
LADDERS: 240 ft. wood ladders, double banked. No overhang.
BOOSTER TANK: 100 gals.

Every Ward LaFrance is designed and built on the principle that the *best* pumper is the one that will put an effective stream into play in the fewest minutes after the alarm is registered. And the best pumper for one community is not necessarily the best for another because of differences of grades, types of buildings, limits of city mains and many other factors.

Ward LaFrance offers three guarantees that the equipment you purchase will be ideal for the protection of your community.

1. **BETTER BASIC FEATURES** which go into every piece of apparatus . . . like the heavy-duty, quick starting 6 cylinder Ward LaFrance engine, which provides plenty of reserve power.

2. **A COMPLETE LINE** of Triples and Quadruples assuring the proper equipment without extensive and expensive modifications.

3. **SOUND ENGINEERING COUNSEL.** Over twenty-five years of practical experience in interpreting the individual requirements of both large and small communities.

WARD
LA FRANCE

GREAT AMERICAN INDUSTRIES, INC.
WARD LaFRANCE TRUCK DIVISION

ELMIRA NEW YORK

USE A DEPENDABLE LADDER WHEN LIVES AND PROPERTY ARE AT STAKE

When you are called upon to save lives and property, a good and dependable ladder is required; anything less can be detrimental instead of helpful in your work.

The Pirsch lattice girder aluminum alloy aerial ladder provides the strength and dependability you need when the emergency calls.

The Pirsch 65′ Intermediate aerial ladder truck shown above was delivered recently to City of Quincy, Mass.

PETER PIRSCH & SONS CO. KENOSHA, WIS.

"BUILDERS OF AMERICA'S FIRST ALL-POWERED AERIAL LADDER TRUCK AND AMERICA'S FIRST 100′ AERIAL LADDER"

STRENGTH TO PROTECT Life and Property with the MANHATTAN Radio-Active Mildew-Proof Treatment for FIRE HOSE

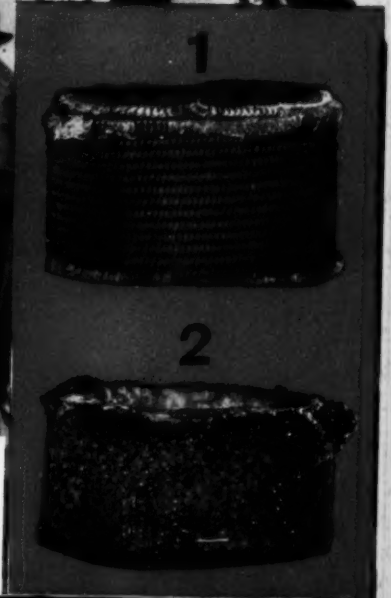
Another in the long and growing list of MANHATTAN Strength Member Achievements for industrial rubber goods.

Here is a Strength Member that is chemical rather than physical—the only radio-active treatment for cotton fabric. It renders hose permanently mildew-proof, thereby preserving the original strength, flexibility and durability of fire hose so treated.

This MANHATTAN treatment is unaffected by water, is actually moisture repellent, prevents hose freezing in winter, will not sweat out or rub off.

This treatment, perfected by MANHATTAN, makes careful drying of hose unnecessary, indefinitely preserves the full strength inherent to its construction so that useful life is subject only to physical wear or accident.

These added increments of protection make its slight extra cost an important and sound investment for any plant, building, ship, municipality in lessening fire hazards. Distinguished by its green treatment color, flat-folding, it is always ready for use or immediate re-use. . . . Now the war is over, it will be easier to get.



MILDEW INCUBATOR TEST

Two pieces of "treated" fire hose — after 3 months identical incubation tests. No. 1 is MANHATTAN Hose treated by the radio-active process. No. 2 has had ordinary mildew-resistant treatment. No. 2 had lost nearly 80% of its original strength.

ARMY E NAVY

RM

THE MANHATTAN RUBBER MANUFACTURING DIVISION
of RAYBESTOS-MANHATTAN, INC.
EXECUTIVE OFFICES and FACTORIES • • • PASSAIC, NEW JERSEY

Yes, the Kidde Water Extinguisher eliminates the fuss and bother of annual recharging. It gets its power—not from the reaction of chemicals that may deteriorate—but from a *hermetically sealed* cartridge of carbon dioxide that retains its full water-propelling efficiency for years... and when used does no more harm than water.

And when recharging *is* needed, after use, it's a quick, safe, simple operation. No chemicals to handle... no risk of acid burns. Just refill with water and slip in a replacement cartridge!

For locations where low temperatures are encountered, the Kidde Anti-Freeze Extinguisher — identical in construction with the Water Extinguisher — offers the same freedom from need of annual recharging, *plus* ability to function at temperatures as low as —40° F.

Get the facts *today* on Kidde Water Extinguisher and Anti-Freeze Extinguishers.

Walter Kidde & Company, Inc.
1033 Main Street, Belleville 9, New Jersey

K Kidde

The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc.

Kidde

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

INDIAN

Fire Pumps

Bettman Archive Print

Will Get You Out of a HOT SPOT!

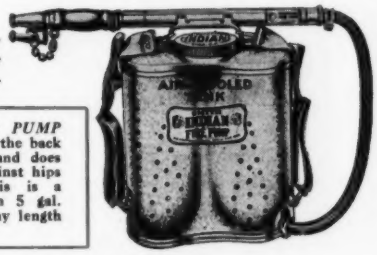
MANY a tough fire fighting job has been licked through prompt use of famous *INDIAN FIRE PUMPS*—the clear water extinguishers with a reputation for smashing inside and outdoor fires before they spread. Here is a typical example of the large number of enthusiastic endorsements which we receive from users of *INDIAN FIRE PUMPS*.

D. B. Smith & Co.
Utica, N. Y.

We have had many occasions to use our *INDIAN FIRE PUMPS* and consider them the most important pieces of equipment we now have in our company. Just two days ago we saved a dry goods store and probably several other buildings nearby with *INDIAN FIRE PUMPS* and very small water damage resulted. This is a highly important feature.

We are going to get some more of your pumps in the near future.

Yours very truly,
J. S. Williams, Chief, Fire Dept.



An *INDIAN FIRE PUMP* carries slung high on the back like an Army pack and does not jostle around against hips causing fatigue. This is a great advantage when 5 gal. tank is carried for any length of time.

Above: Using *INDIAN FIRE PUMPS* to clean up a room fire in a hurry. Clear water does no harm. At right: A fire truck completely equipped with *INDIANS* which has six in carrying racks on each side.

FOR INSIDE AND OUTSIDE FIRES USE

INDIAN

Clear Water

FIRE PUMPS

D. B. SMITH & CO.

406 Main St., UTICA 2, NEW YORK

PACIFIC COAST BRANCHES:

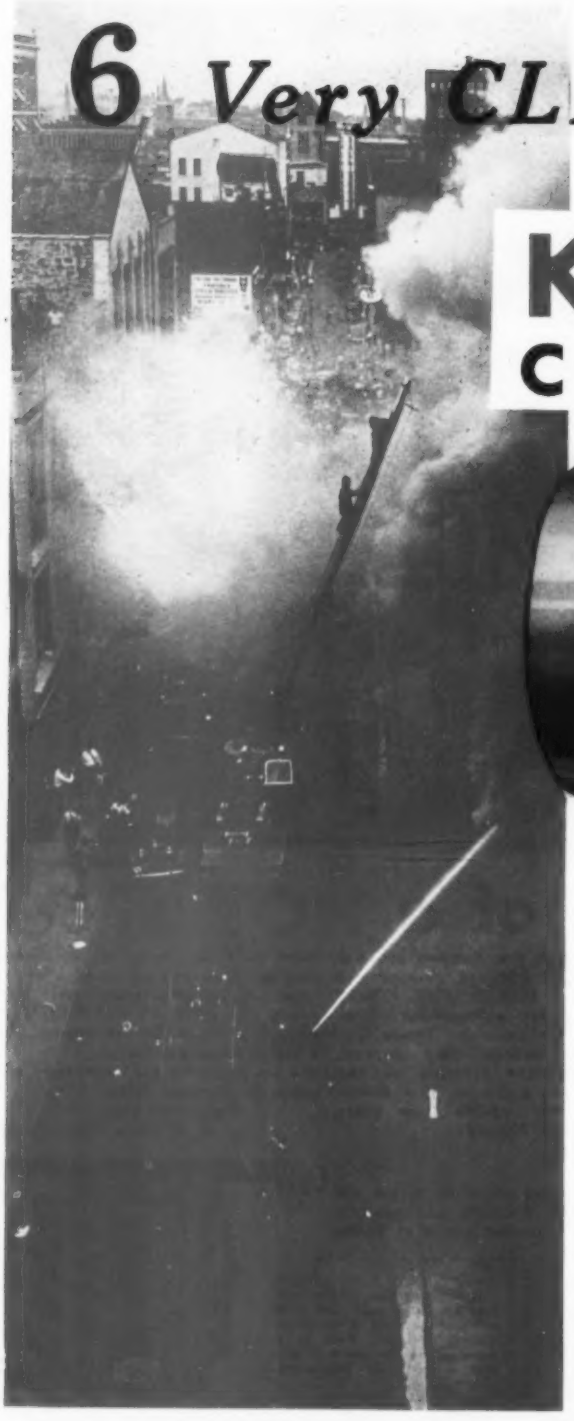
HERCULES EQUIPMENT & RUBBER CO., 435 Brannan St., San Francisco, Cal.

Jay G. Davis Co., 57 E. Third St., Los Angeles 13, Cal. — Carco-Conybit Co., 520 S.W. Pine St., Portland 4, Oregon — The Conybit Co., Klamath Falls, Oregon — Mill & Mine Supply, 2700 4th Ave. So., Seattle, Wash.

6 Very CLEAR Reasons

for using—

KLEERLINE COUPLINGS



On your New Hose

1. These modern, sturdy, streamline couplings make for faster coupling-up.
2. KLEERLINE COUPLINGS can't possibly catch on obstructions as did the old pin lug coupling.
3. KLEERLINE COUPLINGS won't wear nor tear hose the way the old pin lug coupling did.
4. KLEERLINE COUPLINGS have clean cut, sturdy threads—longer life.
5. KLEERLINE SPANNERS will fit ANY coupling.
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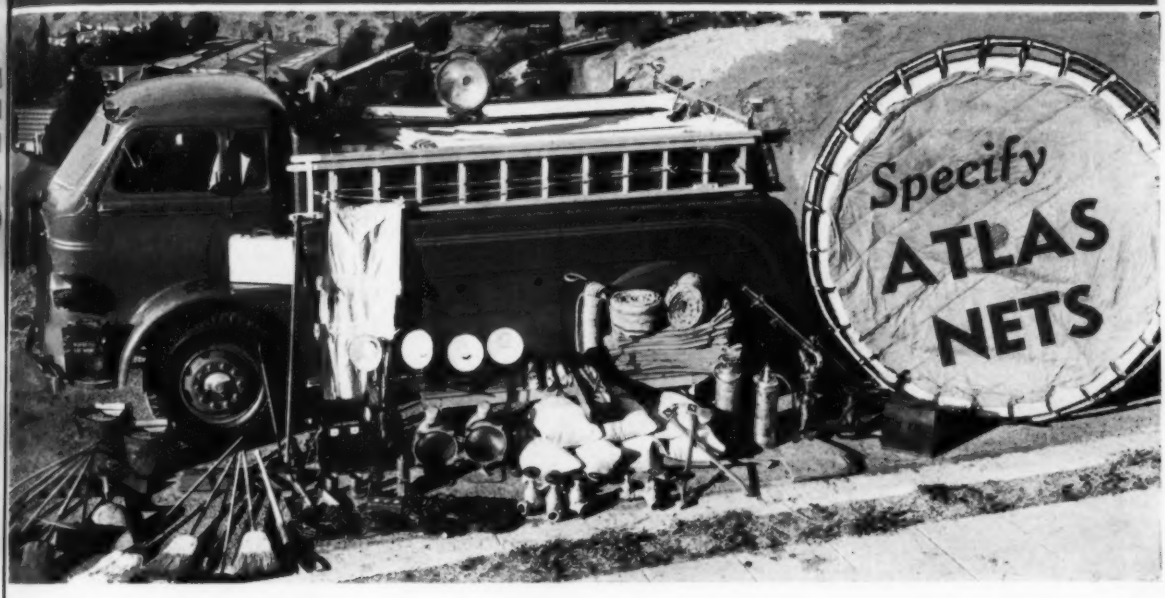

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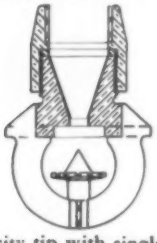

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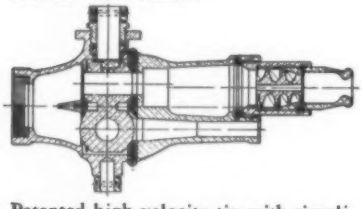

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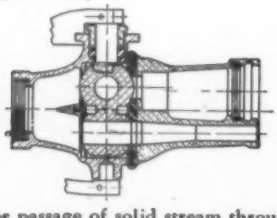

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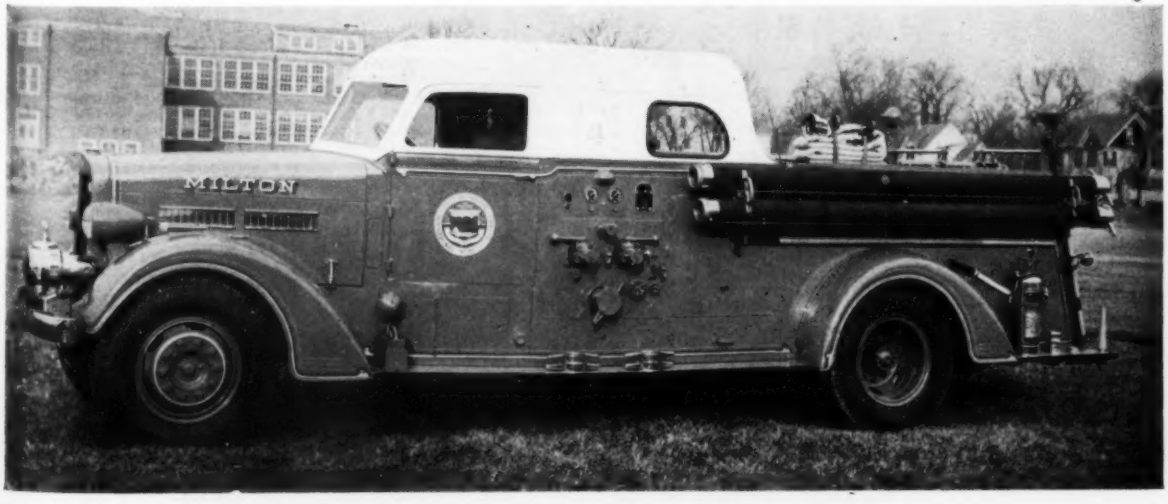

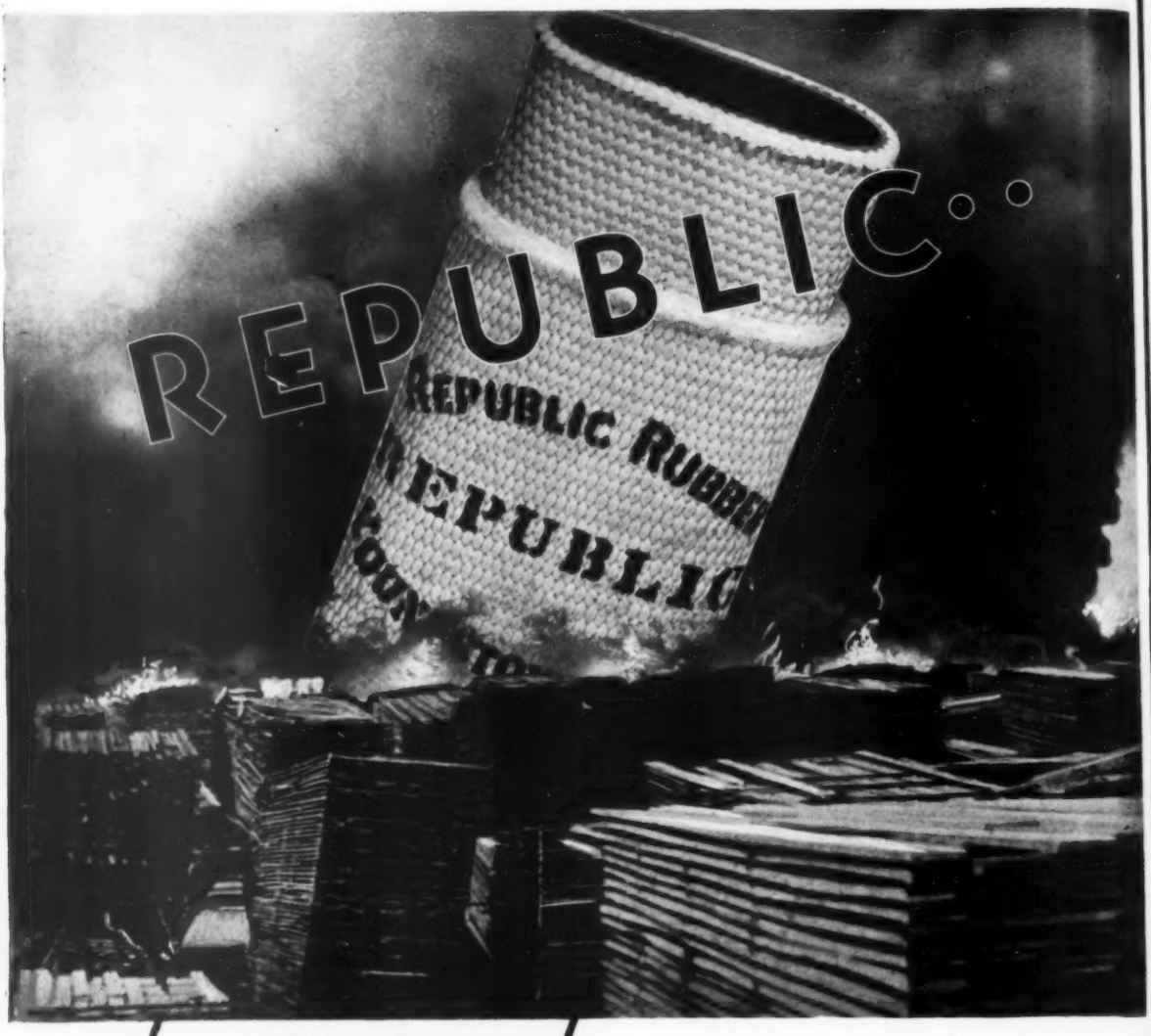

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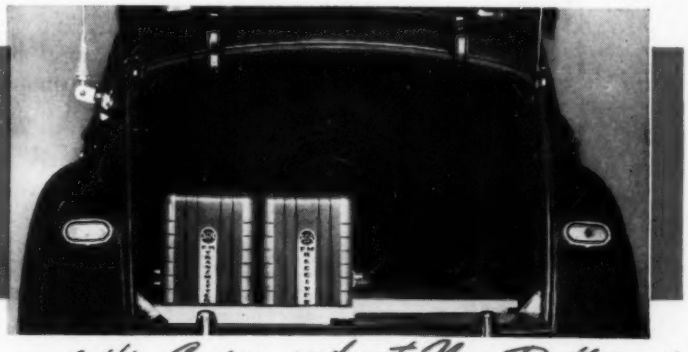

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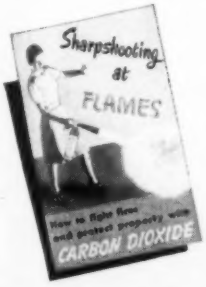

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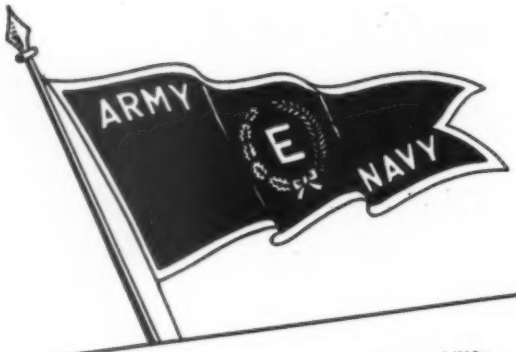

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OCTOBER, 1945 VOL. 98. NO. 10

With the Editor

The Atomic Bomb! "A rope can be used to hang a man, or save his life." That old axiom comes to mind when we contemplate the harnessing of atomic energy, and its powers for weal or woe.

Atomic energy, as demonstrated by the bombs that destroyed Hiroshima and Nagasaki, is acclaimed the most outstanding development of the war—and by some the most important scientific discovery in the history of man.

Although even the scientists who worked on it scarcely yet realize what they have discovered, sufficient is known of its powers for destruction to warrant the most important scientific discovery in the history of man.

As for the fire service, nobody can prophecy just what it may mean for us, either for good or evil. When we read the calculations of scientists that the atomic bomb dropped on Hiroshima caused destruction equivalent to seven times the damage wrought by the Halifax explosion, it beggars the imagination. It will be remembered that on December 7, 1917, in Halifax, N. S., 3,000 tons of ammunition aboard a ship exploded, killing 1,500 persons, injuring 4,500 and wrecking two and a half square miles of the city. When we think of a single bomb capable of doing seven times that destruction—well we just can't conceive it.

It is too early, we say, to attempt to forecast what this newest, most revolutionary of discoveries may mean. That the potentialities for evil and good are almost limitless, however, is certain.

We are told that no unusual accidents occurred in connection with the manufacture of the first bombs. But no scientists would venture to predict that the peacetime harnessing of atomic energy to our industrial and economic welfare is so simple and safe that the task may safely be done within the boundaries of our cities. When they have found that answer, then we of the fire service will know to what extent the new cosmic power is asset or liability.

Meanwhile it is well to remember the old adage.

Fred Sheppard

Wind and Fire Cause Heavy Loss in Miami and Richmond Field

Disrupted Fire Alarm and Water Systems Jeopardize Miami by Handicapping Firemen

A STAFF REPORT

WHEN the hurricane, on September 15, struck Miami and environs, first reports were that the city's fire and water services were out of business, fires were ranging there and at Richmond Navy Base and that 200 had been injured fighting them. Reports of property damage ran all the way from fifty to a hundred million dollars with corresponding heavy loss of life. It was altogether an alarming picture.

In an effort to secure the first-hand facts, from the person best qualified to furnish them as they relate to the fire service and its participation, the editors requested Fire Chief Henry R. Chase of Miami to tell just what happened, as he saw it. The following staff account is based almost entirely upon his report supported by information gathered from other official sources. At his request, certain details are withheld pending release of later surveys and official statements.

Florida and Miami are not strangers to hurricanes, which have struck, for the most part in the months of August and September, almost year after year with varying intensity.

One of the worst of hurricanes to a wreck havoc on Miami came on September 17, 1926, with winds reported at 115 miles per hour, leaving much of the city flooded and wrecked. Loss of life in the area was 327 dead and 6,327 injured, 1,000 of them seriously, with property loss estimated at $100,000,000. In this hurricane communications were disrupted, telephone exchanges knocked out, poles and wires thrown down and the fire department almost isolated. Fortunately, no serious fires occurred during the storm.

That experience was supposed to have taught Florida—and Miami—a lesson. Steps were taken to establish disaster chapters and units. Weather reporting services were improved. Recommendations, it is said, were made to Miami officials to safeguard essential municipal communication facilities. Although the telephone companies, in the years following, did place many of its wires underground, the essential cables to supply power for pumps as well as fire alarm circuits were left overhead.

Threatened numerous times since then, particularly by the storm of September, 1928, which missed the city but caused from 1,770 to 3,500 fatalities in the Lake Okechobee area, and the September hurricane of 1938, which killed nearly 500 persons, with a property loss of over half a billion, the need for safeguarding water supplies and municipal communications is said to have been repeatedly pointed out by press and officials of the emergency services. Yet very little was done. All of which had a direct bearing upon the outcome of the September, 1945, blow.

This Time Fire and Wind

This year's hurricane, spawned like others in the Turks Island area, after ample warning came slashing into Florida with wind velocities of as high as 140 miles an hour at Key Largo off Key West. In Miami, hotels and homes were boarded up, exposed structures evacuated and residents of the Keys and Fort Meyers' area evacuated to Miami. The tip of the state was placed on an emergency basis. In Miami, shelters which could accommodate 47,000 were stocked with food, medicine and supplies. The Red Cross and disaster units were ready. All military, commercial and private aircraft fled or were in shelters, among the latter were 366 planes and 25 Navy blimps which were jamed into the three great hangars at the Richmond Naval Air Station about twenty miles from Miami.

Military personnel were evacuated to storm-proof shelters. Small boats moved inland up the Miami River; extra highway patrols went on duty. All was battened down in readiness. Police and fire services took the customary precautionary steps developed from long experience with the "big winds."

And then the storm struck Miami. Wind, reported as high as 99 miles an hour, with rain squalls and high tides, repeated, to a lesser degree, the destructive story of earlier hurricanes. Fortunately only three lives were known to have been lost although property damage was estimated at about $50,000,000, most of it the result of the destruction by wind and of fire the Richmond blimp hangars.

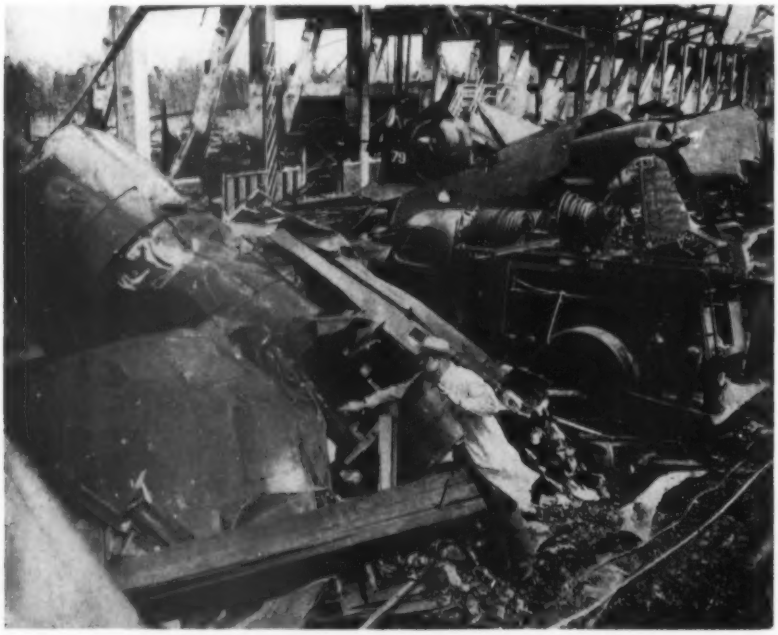
So far as is known, this is the first storm recorded, where fire teamed with hurricanes to create such heavy loss.

Communications and Power First to Go

If reports are correct, failure to profit by the lessons taught by earlier storms and the warnings sounded by persons qualified to speak, came near to bringing greater disaster.

In gales of this nature, the first facilities to suffer are overhead power and communication lines. That is what happened in Miami on September 15, as had so often happened previously.

Despite the fact that the fire department had on several occasions called the attention of the city government to the hazard of running power service lines which supply the city's main waterworks pumping plant, overhead, nothing had ever been done about it. Also, recommendations that standby diesel units be installed to meet emergencies,



Fire Truck Buried in Wreckage of Navy Hangars
Part of the wreckage remaining after hurricane and fire destroyed three hangars housing 366 planes, 25 blimps and 150 automobiles at Richmond Naval Air Station.

caused by power failure, likewise, had fallen on deaf ears, although it is said that at one time bids for the equipment had been requested.

The net result is that early in the storm the service lines running to the main pumping plant went out of commission. According to Fire Chief Henry Chase the only water available for fighting fires was from two high pressure pumps, each delivering 2,000 gallons per minute at 200 pounds pressure. There are nine and three-quarter miles of mains that cover the Miami high-value area, but outside of that particular district all the department had to depend on to any degree, were a few fire wells that had been sunk many years ago and had practically been abandoned in later years because of the extension of the municipal water lines.

Line failures, other reports indicate, placed two of the city's pumping plants out of commission. It is said that the cost to install underground power service to supply these plants would hardly have exceeded $2,500, but the city ruled against the recommended improvement because the cost was believed excessive in view of the fact that there was already one pumping station with underground service, and it should be sufficient.*

The present city pumping plant (high pressure) utilizes salt water, or water that is brackish and therefore it not suitable for use in the municipal system.

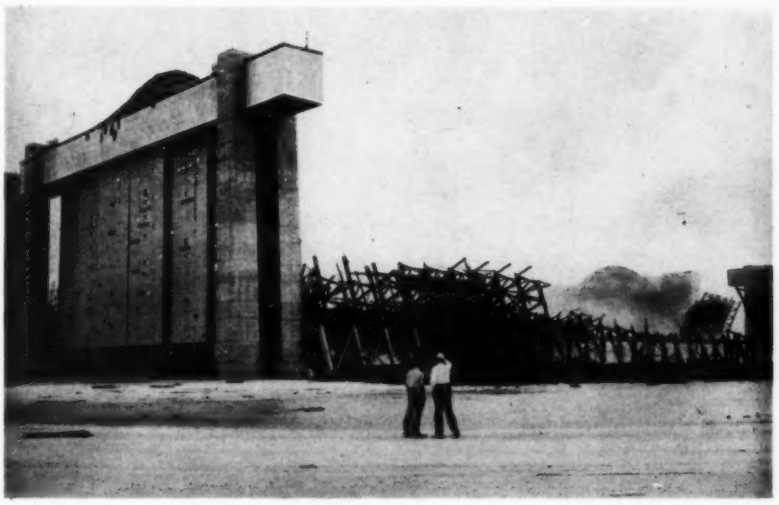
According to Chief Chase, shortly after the wind began to gain real velocity, around seventy-five to eighty miles an hour, practically every fire alarm circuit in the city went out of commission. In the extremity, appeals were made to the citizens over local commercial radio boadcast facilities not to attempt to use the street fire alarm boxes, should they wish to report a fire, but to telephone their calls to the fire alarm headquarters.

It is disclosed that a large proportion of the city's municipal fire alarm system is overhead type installation, and that many sections of the underground circuits also, are carried overhead in certain locations. The natural result is that the checking of the certain aerial sections resulted in consequent impairment of the underground installations.

The City of Miami, due to the forethought of its fire officials, has wire inter-connection between fire stations, fire and telephone headquarters. According to Chief Chase, these connections are for the most part underground, with the exception of two fire stations. This afforded the department a measure of headquarters-to-station communication during the storm, it being unnecessary to rely upon normal station signal hookups. In the two fire stations not connected by telephone, the department resorted to the use of its two-way radio.

Chief Chase states that if had not been for the two-way radio during the storm, the department would have been much more handicapped than it was, as it had a number of fire calls during the gale and, by means of radio, was able to keep in contact with all fire equipment in the field, and re-locate them as necessary from fire to fire which, fortunately, the Chief says, with the exception of the blaze at N. W. 17th and 21st Street, were all small and were extinguished with booster lines or first aid appliances.

*Post-hurricane accounts indicate that following the catastrophe the city is figuring on making the necessary vital improvements to rectify this condition and provide for the future. Present plans are to install auxiliary units, such as diesel engines, at the high pressure plant, which would be located at a point approximately in the center of the city, and at this location to sink wells which will average possibly one hundred feet deep. In normal times this plant would be used for furnishing high pressure to the city's fire system. In case of emergency the city will be able to open valves that will permit pumping into the municipal system with water that will be pure, although it would not receive the same treatment that is presently given the city supply.



Richmond Naval Air Station Destroyed by Hurricane and Fire

Miami Has $100,000 Fire

At just about the height of the storm, the Miami Fire Department was called to a serious fire at 17th and 21st Street, N. W. Here two structures were involved, one a furniture factory, the other a tile plant. Adjoining on the south was a liquor store, and on the north of the two buildings involved in the fire were a number of wooden structures.

The fire, whose origin has not been determined at this writing, was discovered by a citizen who is reported to have traveled about eighteen blocks to one of the fire stations of the department in order to turn in an alarm. According to Chief Chase, the fire was well under way when the department arrived at the scene. He responded on the second alarm and states that it was one of the toughest trips he ever took in his years of experience as a fireman.

"Water was running-board high in several places," he reports. "Trees, telephone wires and telephone and electric light poles would fall in front of you, necessitating detours. About the time you felt you were in the clear, along would come somebody's roof to land in front of you. However, we were able to get to the blaze and it was anything but a pleasant sight." The Chief in his droll manner adds: "I wondered why any fool wanted to be a fireman under such conditions." According to his report, the biggest difficulty was trying to get water into the fire buildings. Flames were shooting from fifty to seventy-five feet parallel with the ground, out of all openings. It was impossible to get enough pressure on the nozzles to get effective streams into the building because the wind took command of the streams, blowing them away so that the men had to force themselves right up to the walls and as close to the openings as possible in an effort to hit the base of not one, but a dozen different fires. All this time there was the danger of the walls under which they were working being blown over onto the men. Luckily this did not happen and no fireman was seriously injured.

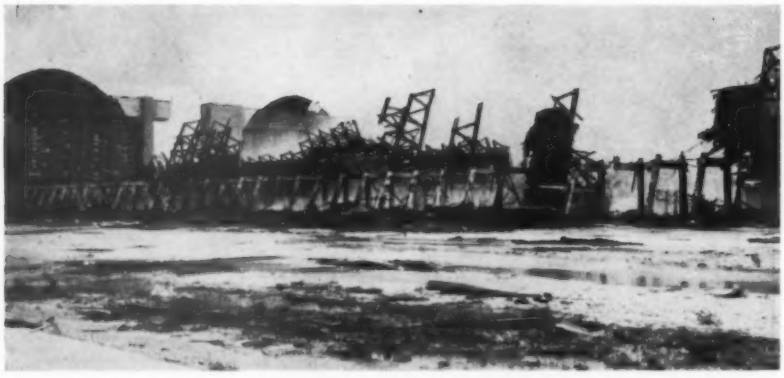
Providentially, this fire occurred in a location where there were wells available for fire department use and the fire forces were able to get four streams into operation sufficiently to prevent the fire from spreading further.

Chief Chase raises an interesting question which has puzzled many fire officers who have had opportunity to operate on fires during hurricanes or tornados. To put it in his own words: "A peculiar condition exists in these storms which is puzzling and that is the fact that with these hurricanes you have a tremendous amount of rain and water flying through the air, and it would seem to me that where there was so much water it would be impossible for fires to find opportunity to develop as they do, and as this one did. I saw slabs of lumber six and eight feet square flying through the air at the rate of about 100 miles an hour and still burning."

"It is true," he continues, "that they would not burn very long, possibly only five or six hundred feet while flying through the air, but still they would burn and even sparks would fly for a couple of hundred feet before being extinguished by the driving rain. This fire, while amounting to $100,000 loss, did not last very long and that is one advantage I can see—if you want to call it an advantage—of having such a fire during a hurricane; it certainly burns up in a hurry. We were at this fire about three-quarters of an hour and then returned to service leaving one company there to take care of any possible rekindle which actually did happen about 3:00 A. M., but did not amount to anything."

The Miami Fire Department, long a user of short wave, two-way radio, with sets mounted on practically every piece of fire apparatus and vehicle in the department, had occasion to bless this acquisition.

We have previously reported how the chief and headquarters kept in touch



World's Largest Wooden Structure Destroyed

With hurricane winds roaring over this Naval Air Station at Richmond, Fla., in excess of 100 miles an hour, fire broke out in the three blimp hangars. Wind and fire leveled the structure, with a loss of twenty-five blimps, 350 airplanes and 150 automobiles. Fifty of the Navy personnel were injured.

with each other in handling the numerour fires and fire alarms during the period of the hurricane. Referring again to this radio installation, Chief Chase makes this pertinent observation: "The radio equipment that was used during the storm was a life saver. Those who anticipate using radio in their fire departments should by all means provide a larger battery than those that are placed in fire engines or private cars, because the small batteries will not stand much of the drag or drain, and in case of emergency it might be some time before you would have charging facilities in order to take care of your battery; therefore large capacity batteries are very essential and those who attempt to use the smaller ones will find, in a short period of time, that they have made an error and they must get the larger battery."

The chief was in constant contact with his fire alarm headquarters and his operating personnel in the field at all times without having to hunt up telephones or send messengers. It may be recalled that in the New England hurricane, which did such heavy damage, the only communication facilities for a considerable period of time, was a small short-wave set, operated by a licensed radio amateur. Short-wave radio likewise justified its vital importance during Miami's tribulation.

Hurricanes Leave Hazardous Hangovers

A factor not always appreciated by firemen who have not themselves experienced the situation is that an increase of fires, and sometimes serious blazes, follows in the wake of such storms. Chief Chase explains it in these words: "Since the storm we have been running practically night and day, putting out electric fires that have been started due to dampness and crossed wires. Although we have appealed to the public by radio and press asking residents to pull their switches when they leave their homes, so that in the event the current comes back on before they return their houses will not catch fire, they do not seem to recognize the dangers, and carelessly go away, leaving the light switches on. In one case an electric iron had been left hooked up, the people figuring there was no danger because the current was off. When they returned home they found their house pretty well burned."

In areas where more residential and commercial heating plants are used than in sunny Miami, aftereffects of severe storms that have damaged power lines and gas mains have included fires caused by defective chimneys, failure of automatic heating devices, and the like.

The Richmond Field Fire

If reports are accurate, the collapse and fire that destroyed the three large hangars at the Navy's Base resulted in the largest single fire loss of the year, in fact, of many years—a loss estimated by Navy spokesmen at between $30,000,000 and $40,000,000.

The Base, located about twenty miles outside Miami, contained three huge hangars, said to be the largest single span, wooden structures in the world, each measuring 1,100 feet length, 237 feet width by 171 feet in height. It is reported that they were considered safe from any hurricane and as a result, planes and lighter-than-aircraft that had not been flown out of the threatened storm area, were jammed into the hangars. It is also said that the gasoline tanks of most of the planes had not all been emptied, nor had battery ignition been disconnected. Long after the worst of the storm had passed, and while firemen were still pouring water, on the smoking embers, 50 caliber ammunition continued to explode in the gutted hangars. Steel helmeted M.P.'s kept civilian sightseers at a safe distance.

That the fires followed almost immediately the collapse of the three great hangars and that the collapse directly caused the fires has not been disputed. The winds at the lighter-than-air station were estimated to have reached 120 miles per hour velocity. Of the 366 planes reported destroyed it is said 153 were civilian craft.

A tragedy of the fire was the death of Harry H. Schultz of Miami, civilian fire chief at the Base, who was killed in action only the day before he was to have received a Navy certificate, on the third anniversary of the Richmond Base.

It is understood that the wood in the three hangars was Oregon Fir, and had been treated with flame-proofing to make it fire resistant. Following the fire, samples of the wood were tested, with an acetylene torch and although the wood was subjected to the fierce flame for five minutes, when the torch was removed, the wood surface was only charred and the flame went out immediately. After scraping away the charred part, it was found that the wood an eighth of an inch from the surface was just as solid and clear as it was to begin with.

If this retardant effect persisted throughout all the structures, it is obvious that it was not the combustibility of the material in construction of the hangars that caused the loss. Chief Henry Chase confirms this belief in his report to FIRE ENGINEERING. He states that he personally observed some of the results of the disaster and found considerable of the hangar roof and side structure, which were of wood, literally blown from the buildings and further, that these were not burned or even charred. Long ago, Chief Chase interested himself in the question of flame-proofing wood. He states that he has pieces of Oregon fir, which had been treated for fire retarding and which lay on a concrete dock outside his office for six months, where the elements could alternately wet and dry them out. He put a blow torch to the samples and found that while they would char, as soon as the torch was removed the fire would go out.

It may be that later official data on the disaster that befell the Richmond Base will explain just what caused the collapse of the giant structures and what bearing the collapse had upon the fire. At the present time, however, without all the evidence at hand it can only be conjectured what really happened. What is known is that hurricanes, such as this one in question, may bring about a tremendous drop in air pressure in a certain area. Residents of Miami have seen a barometer drop as much as ten points—that is, from 28.80 to 28.70 and return to its original reading all within thirty seconds! This sudden and severe drop obviously would result in tremendous pressure in a building if structural openings were not sufficient to compensate for the atmospheric change, or to adjust the inside pressure with that outside the building.

Authorities point out that, with the vast ground floor area of the hangars all jammed with planes, lighter-than-air ships, busses, and even fire apparatus, many of which obviously must have had gasoline in their tanks and in every probability batteries still connected, the stage is set and waiting for a concentrated conflagration.

Although, again the evidence is lacking, there might have been some fire or flame in the hangars themselves and, if so, this might have come in contact with the combustibles. Still another and likely cause would be failure to pull the main electrical switches that fed the motors of the doors or other operating mechanism of the hangars. Wreckage of the electrical system could easily have ignited spilling gasoline from ruptured tanks.

Navy officials are credited with the statement that the fires sprang up almost simultaneously in the three hangars, two lying close together, the third, some 2,000 feet away, as the hugh roofs of the sheds, supposedly tested as hurricane proof, collapsed.

It would appear that no blame could attach to the Naval Station fire brigade which labored against insurmountable odds, its chief being killed, and many of its fire-fighters injured in the losing battle.

Among the calls for aid sent out by the Richmond Station authorities, was one to the City of Miami asking for fire

(*Continued on page* 803)

Ambulance Service Placed Under Fire Alarm Office

Unsatisfactory Ambulance Service at Washington, D. C., Improved By Placing the Dispatching of Units in the Hands of Fire Alarm Headquarters

By ROI B. WOOLLEY

THE District of Columbia, otherwise the city of Washington, enjoys a reputation for many things besides being the nation's capital. One record it doesn't particularly boast about however, is the number and severity of its traffic accidents; for Washington stands altogether too high on the list of cities having abnormal traffic casualties.

Perhaps this was to be expected of a city that has almost doubled in size since Pearl Harbor; a city that has been forced to speed up its traffic of all kinds in an attempt to transport its thousands of government workers and others.

This isn't intended as a story of Washington's traffic; that story has been told and retold many times; it has been the subject of investigations by civic and other interests; it has even found its way into the Congressional Record, and been the basis of heated discussions on "the Hill." This is the account of only one phase of Washington's traffic troubles and it is told to illustrate how, in a dilemma, the District fire service got the SOS—and what it did about it.

Our story really begins at 8:10 A.M. on the morning of March 1, 1943. At that moment a young woman, attempting to cross busy Pennsylvania avenue, was struck by a street car and thrown to the pavement. Anyone familiar with Washington knows the speed at which these conveyances travel and perhaps wondered that more persons have not been injured by them.

This particular accident and its attending circumstances might have produced no more repercussions than many that preceded it except that, fortuitously, it occurred directly in front of the office of one of Washington's leading newspapers.

Reporters and camermen were on the job with the speed of the fire department. If ever a victim of a street accident received quick attention Miss Charlotte Blood, Air Forces clerk—for that was her name—did. This time the papers had the facts, first hand, and they went to town with them.

According to the editorial account "a policeman said he called police headquarters within three minutes of the accident and asked for an ambulance but the woman lay on the pavement for almost half an hour, attended at times by as many as six policemen—but no doctor, no first aid, no ambulance." Twenty-seven minutes later, according to the published account, a police patrol car arrived and removed the victim.

It isn't necessary to detail the chronology of this case. It wasn't the first time casualties of street accidents in the city had been left lying practically unattended while hospitals, fire and police departments were besought to send help, help that in most cases was not available or, if so, it was misdirected or wrongly dispatched and arrived too late.

The newspapers reminded their readers of this fact, told them this wasn't the first instance of such delay and confusion. But this time they raised a real storm of protest, that couldn't be ignored. What was needed, said the caustic accounts, were more ambulances, better system for handling them, and a genuine investigation to determine who and what was responsible for the bungling ambulance calls and response—"for the definite purpose of disciplining the incompetent persons responsible, and perfecting a system that will not permit such fumbling."

On the 9th of that month announcement was made that the District Commissioners* were making plans for a conference soon of police, fire, hospital medical, health and other officials interested. Among the first steps taken was to study the communications phases of the problem, these being recognized as paramount in any plan for more efficient administering and operating the District's ambulance services.

Out of this study, Dr. John Reed, of the Police and Fire Department Medical Services, was made Chairman of the Committee to investigate fully and report recommendations for ambulance service dispatch.

*Washington is governed by three commissioners, two civilian commissioners appointed by the President and one engineer commissioner by the Chief of Engineers, U. S. Army.

Dr. Reed, long thoroughly familiar with the operation of the Fire Alarm Bureau of the District, and its trained personnel, and also aware of the necessity of coordinating the dispatch of fire services with other ambulance facilities recommended the entire task be placed in the hands of the Fire Alarm Bureau, headed by Herbert A. Friede, then Chief of Emergency Communications for the District as well as Superintendent of the Fire Alarm Bureau.

What the Studies Disclosed

The study revealed a number of interesting facts. It was found that the method of dispatching emergency ambulances varies in different cities. There is no uniform system or method. Only a very few cities link this operation with the fire department and its emergency communication service. It is understood that one such city is Baltimore, which for some time has dispatched ambulances through its fire alarm telegraph bureau.

In the District, much of the difficulty in handling ambulance movement, it was found, was due to the system followed. In time of an accident or emergency requiring ambulance service, it was the custom for a citizen to call Police Headquarters, which, in turn, would call one of the two hospitals at that time maintaining an emergency room and emergency ambulance service.

However, no record was kept of who received these calls or, if the ambulance

Fire Alarm Central Office, Washington. Radio Equipment at Right.

was going to respond; it was left entirely with the telephone operator at the hospital, who relayed the message to the ambulance driver, if he was in or not already occupied; if he was engaged, not much was done about the situation.

The result was that the patient left lying on the street, or wherever the accident occurred, all-too-often remained there until subsequent calls were made, and then it might happen that two ambulances were dispatched. The first one to arrive usually took the patient. Sometimes the second wasted valuable time searching for the victim who was already removed.

There was also differences of opinion over control, and authority. In short, the system, if it might be called that, had little method and less order, and it was not attuned to the needs of a teeming city like the nation's capital. It was not only inadequate for the city, but its facilities, such as they were, could hardly be said to be utilized in full.

Unlike the directing and dispatching of fire apparatus, which is very closely centralized, and upon which checks are made continually in time of action, the District's emergency ambulances were all too often left to operate "on their own."

Another difficulty, which bore upon communications, was the fact that the more hands, or mouths, through which directions were given for the dispatch of the emergency ambulance services, the more opportunity there was for error. This held particularly true in Washington where streets have geographical designations such as "NE 12th" and "SE 12th" street. It was found there was a high percentage of errors in transmission of instructions for dispatch under the old system.

Still another difficulty was the lack of specific rules and regulations for handling accident cases on the scene of the trouble as well as at dispatching headquarters. It was not unusual for emergency ambulances to respond to a call to find a corpse, whereupon there would ensue confusion over the procedure the ambulance driver or attendant was to follow. There appeared to be a difference of opinion over the course to be followed where death was due to accident in a public place, or where it was a homicide or of natural causes.

These are only a few of the weaknesses which the studies of the Commissioners developed. But they were sufficient to point to the need of quick and stringent action.

In addition to Dr. John Reed, those who were most active in reaching the decision to centralize the dispatch of the District's ambulances in the fire alarm bureau of the fire department, were Commissioner Guy Mason, Commissioner Young, responsible for the District fire and police services, and Stephen Porter, Chief Engineer of the Fire Department. Herbert A. Friede in his capacity of chief of emergency communications for both police and fire services, was frequently consulted.

Following the recommendation to install a centralized expediting system, as it was termed, it was believed imperative to immediately place two-way radio communication facilities on *all* emergency hospital ambulances and, as rapidly as possible, to equip all public ambulances likewise.

The researchers showed that a large per cent of the hospital ambulance runs were unnecessary and actually diverted service from serious cases which had arisen in the meantime and which called for quick action.

The necessity of keeping in touch with emergency vehicles had amply been demonstrated by the fire department, as had the efficacy of two-way radio whereby the central office could contact mobile units anywhere within the district, turn them around, or otherwise direct their movements, as necessity demanded. It was obvious that, following fire department dispatch practices, large numbers of these unnecessary calls and responses could be eliminated.

Having reached this decision, the War Production Board was asked for priorities for the necessary equipment. This was not long delayed, and the task of fully equipping the city's ambulances with radio sets commenced.

By July, 1943, the operational details had been worked out. The ambulances initially covered by the system, having two-way radio telephone facilities, included two at Emergency Hospital; two at Casualty Hospital; one at Freedmans; one at Gallinger; one at the Health Department garage and three assigned to the Fire Department: one at Rescue Squad No. 1; one at Eng. Co. 11, and one at Eng. Co. 31.

On July 14, 1943, the Commissioners ordered Superintendent Friede to place the centralized control system in operation through fire alarm headquarters with the minimum delay. Officially the system went into operation September 1st. It was immediately hailed by officials as a great improvement and they particularly praised its smooth operation and avoidance of duplication.

Objectives Sought For

The report of the Committee on Control and Dispatch of Emergency Ambulance Services, to the District Commissioners, dated June 3, 1943, lists the fundamentals for the organization, control and dispatch of the Emergency Ambulance Service, as it is known. The object is (1) to get the appropriate services at the scene of each accident as promptly as possible following its occurrence and (2) to handle the job so as to prevent unnecessary delays and failure of response.

This, said the report, involves providing suitable organization, procedure and facilities for:

1. Prompt reporting and recording of accidents;

2. Prompt intelligent evaluation of each accident case;

3. Effective control of the emergency units;

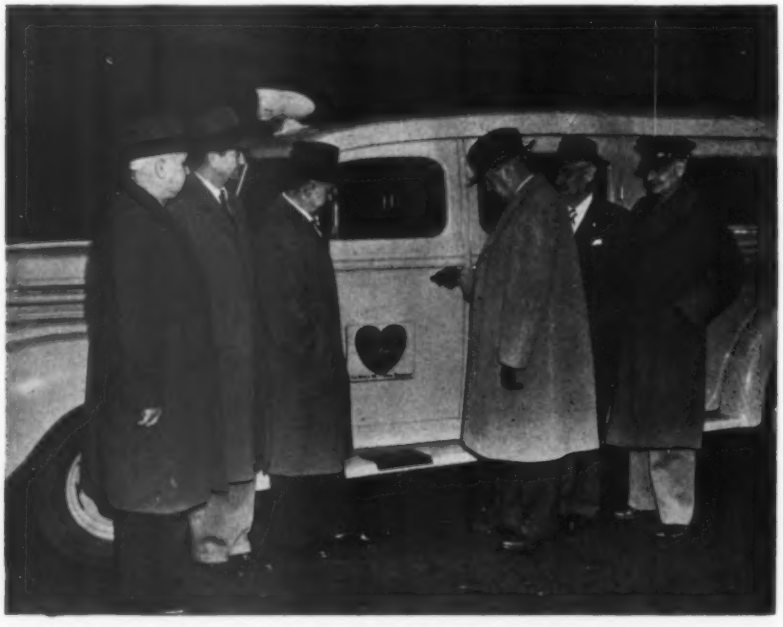
4. Efficient dispatching of appropriate emergency service;

5. Accurate logging of every call, response and disposition;

6. Furnishing the Commissioners a quarterly report of all ambulance calls and responses.

The report gave as a reason why the service should be centralized in fire alarm headquarters where there are operators who, by experience, are trained in receiving emergency calls and dispatching of emergency apparatus. No other agency of the municipality has had this training and experience. "These operators have the training and experience to evaluate accident reports and to question intelligently persons under the stress of excitement so as to determine the seriousness of the situation and what services are required."

Emphasizing the importance of communications, the report said that they must be fast, accurate, and subject to minimum delay. It added "the existing facilities in the Fire Department are adequate for effective dispatching. However, this is not true of the hospitals and Health Department."



Ambulance in Service at Washington, Presented by Variety Club

Fully equipped with a two-way radio, tuned to wave length WDCS (Fire Alarm Headquarters), the ambulance has a Murphy bed, a field stretcher, and can take care of three patients and two attendants.

Operational Details

In its operating instructions the Commissioners left little to chance. On the question of authority, it said: "the central dispatching center (Fire Alarm Headquarters) shall have full control and authority over the dispatch of Emergency Ambulances to the scene of any accident." It insisted that the various hospitals and others concerned should issue orders to their respective personnel to make it mandatory for them to carry out orders received from Control Headquarters.

All ambulance calls will be recorded, dated and timed by the operator (this last detail has proven highly important in a number of instances where there was some controversy over response).

All hospital ambulances shall be numbered in accordance with an approved plan, and operators will refer to these ambulances as "Casualty Ambulance No. 1 turn out and respond to address, etc." All Fire Department ambulances are already numbered.

It was pointed out that this program in no way interfered with the hospital's prerogative to dispatch its emergency ambulance, but it is compulsory for the particular hospital to first notify Headquarters and the operator that such a run is contemplated, giving in detail full particulars for the record. Other details were:

Officers or drivers of ambulances when reporting for duty must notify Headquarters at once so names can be entered upon the Log, giving his name, that of hospital, and ambulance number.

Calls for doctors to respond to sick calls which do not require ambulance service will be routed to the Medical Bureau. Dispatchers will log and record such calls in detail.

Calls for cases of questionable nature will be given to ambulance police scout cars for investigation and report (Washington has thirteen of these scout cars suitable for emergency ambulance work).

The hospitals will be responsible for full coverage of the emergency off-premise P.B.X. ambulance telephone watch on a 24-hour basis; this telephone will be used for no other purpose than for Emergency Ambulance Service.

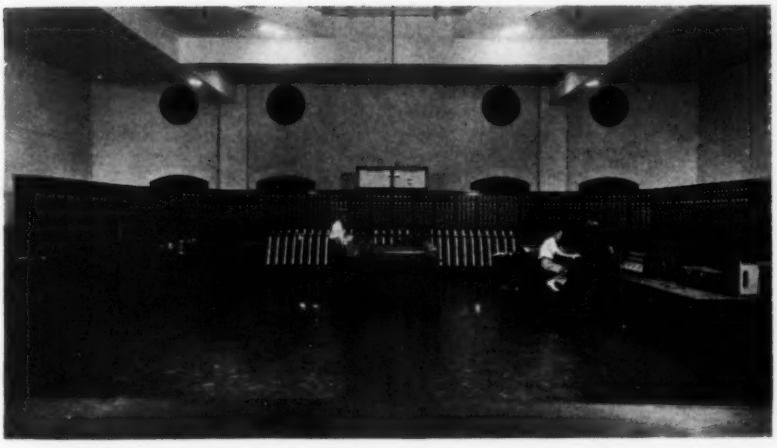
The Fire Department ambulances (of which there are three, with two Rescue Companies) when not doing fire duty will be used to supplement hospital ambulances.

Another important detail of the set-up is indicated by this instruction: "In cases of accident where the services of trained experts are required to remove persons who may be trapped or those that require mechanical jobs, gas cases, drowning, electric shock, the Fire Department Rescue Squads shall be dispatched." This is an added instance of the need for coordinating ambulance and fire services.

It was also ordered that "the Metropolitan Police Department will issue such orders to the police officers and particularly the central telephone bureau (which is separate from fire alarm headquarters) that all calls made or received are to be routed over available circuit to the Fire Alarm Headquarters without delay when ambulance service is involved. When Scout Car Ambulances are dispatched to the scene of any accident, a report will be made promptly to the Ambulance Control Center."

Little room for doubt or uncertainty was left by this statement included in the orders: "In all cases of a questionable character not herein set forth in detail, the Chief Fire Alarm Operator will use his independent judgment and always bear in mind the most important thing is to see that assistance is dispatched to the scene of any call with the minimum of delay."

Further instructions required the hospitals to issue instructions and support the District in the efficient operation of the Emergency Ambulance Service, also making it mandatory that officers or ambulance drivers shall not question the directives of the dispatching operators but respond at once without delay to his orders, "always bearing in mind that he and he alone has an over-all picture of the status of the ambulance service."



Fire Alarm Central Office, Washington. Radio Equipment at Right.

Some Dispatching Center Details

The District of Columbia Fire Alarm Headquarters, at Fourth and Douglas Street, NW, is one of the most modern, complete centers of fire communication in the country. Completed in 1940, nothing has been spared in the way of improved mechanical equipment and trained personnel to make it a fit communications center for the nation's capital, and its outstanding fire department under the direction of Chief Engineer Stephen Porter.

It was eminently fitting, therefore, that the Emergency Ambulance Service should be centered in this Headquarters.

The inauguration of this added program and responsibility to the Fire Alarm Bureau's heavy wartime schedule of business placed a heavy burden upon an already short-handed staff. Superintendent Friede, even before the decision to place the dispatching of the District's ambulances under his direction, was finding it difficult to maintain his personnel. Operators cannot be trained in a day. Fire alarm bureau technicians likewise do not spring into full bloom overnight. In the emergency it had become necessary to employ women to operate the fire alarm board, and keep certain records. They were called upon to play an important part in the operation of the Emergency Ambulance Service.

Little additional equipment had to be installed in the Headquarter's control center. It was necessary to arrange a map whereon all available ambulances were located with the appropriate running areas assigned to them. Also, a

Left: Radio Dispatcher Unit, Washington Fire Alarm Headquarters. Right: Recording and Dispatching Equipment in Service at Washington.

simple indicator, or "turnout" board was prepared, which enabled the operator to tell at a glance what ambulances were available in a given area. This and the Log are all that is required to enable the operators to maintain a perpetual check upon every ambulance, its movements and location.

It was mandatory that when an ambulance was dispatched, and when it returned to quarters, the departure and return were chronologically recorded by time stamps, as well as the name of the person in charge of the ambulance.

In view of the vital part played by communications, there were a number of changes and additions that had to be made to facilitate operations of the new service.

Additional off-premise telephones were installed at the hospitals at or near the ambulance stations, attended on a 24-hour basis. Added trunks and extensions had to be provided for at Headquarters.

By far the most important change, however, occurred in the ambulances themselves. It was made requisite that hospital ambulances as well as all fire department vehicles coming within this category, should have two-way radio. This included the new fire department ambulance undelivered at the time the program was initiated.

In specifying two-way radio for all ambulances, the report of the Commissioners said: "This is most necessary as the telephone system cannot provide a means for directly contacting essential mobile services whose exact whereabouts cannot be known at all times. Also, at times telephone facilities are not available at the scene of an accident when it is very important to make contact with Headquarters."

Mr. Friede was empowered to provide for 10 radio transmitters and receivers for ambulance units not so equipped operating on 39,500 K.C. (the frequency used by the District Fire Department Radio Station WDCS).

The Fire Alarm Bureau radio personnel was authorized to install and maintain the units "at no additional cost except for tube and normal maintenance."

It was specified that the operator or driver of each ambulance must be licensed in accordance with Federal Communications Commission regulations and this information was to be furnished each ambulance radio operator driver when installation was made.

Three additional permanent telephone operators were provided for to handle communications details.

Radio calls in and out of Headquarters are made over the Fire Department's regular station transmitter and receiver with the fire alarm radio operator in charge. Fire alarm communications, naturally, receive precedence over ambulance calls.

An assigned telephone number was given to be used by the public as well as private institutions and municipal agencies in calling ambulance service in an emergency. Wide publicity was given this number in the press and elsewhere.

A number of changes in the city's existing ambulance set-up were recommended in the Commissioners' report. Many of these have been made. In fact, improvements are continually being made. In this connection, one other item of the report is interesting. It says "the Superintendent of Fire Alarms shall issue such instructions for efficient operations as he deems necessary which will be followed by all departments and hospitals concerned." The Commissioners have indeed left nothing to chance in setting up what from all reports, appears to be the nation's outstanding Emergency Ambulance Service.

OAK RIDGE (ATOMIC CITY) F. D. QUICKLY BUILT TO ORDER

Now the secret of how the home of the atomic bomb was protected from fire can be told

A Staff Report

A YEAR ago, when Fire Chief H. H. Maples attended the conference of the International Association of Fire Chiefs in Grand Rapids, Mich., he was in an awkward position. He could talk about his department, but not about the momentous atomic bomb activity taking place in his city, Oak Ridge, Tenn.

The "atom city" was blacked out then. And all Chief Maples could tell his conference friends was "I'm from Tennessee." Today the atomic bomb is known throughout the world, and Oak Ridge is on everybody's tongue. Now, once Chief Maples gets going on the modern Oak Ridge Fire Department—which is largely his "child prodigy" he's hard to stop. The silver-haired fire-fighting veteran speaks with experience. After thirty-three years on the Knoxville, Tenn., Fire Department, he retired more than two years ago to start building the Oak Ridge Department from not even a blueprint.

Now It Can Be Told!

Now that the lid of secrecy is lifted, and Chief Maples has "cleared" the story with "security," otherwise Lt. Col. W. B. Parsons, who himself got a laugh out of Chief Maples' Grand Rapids experiences, the story of the creation, training and operation of the Oak Ridge Fire Department can be told.

From the first fire company—which might well have been called "Expedient No. 1"—which Chief Maples installed in an abandoned farmhouse near what is known as Elza Gate (Clinton side), to the present department of fourteen engine companies manned by 200 firemen, there waged a tense fight against time and possible disaster from fire. For it is obvious how the latter might have jeopardized the entire success of atomic bomb developments.

Chief Maples reported February 2, 1943, and by February 16 he had obtained three experienced firemen, including John Rudd, former captain of Knoxville, now a captain under Chief Maples.

Two-thirds of the 200-member Oak Ridge department are Knoxville men. They like to compare their new organization with their Knoxville brothers. Against Knoxville's 11 companies, with some 130 men, protecting an area of twenty-six square miles, Oak Ridge has upward of 200 men, fourteen companies and is responsible for ninety-five square miles.

About the time Chief Maples was receiving the first two fire trucks, he was facing the problem of water supplies for his area. He licked that by having firemen construct earth dams across creeks to supplement the main water lines. Now, about every Oak Ridge corner has a fire hydrant.

The foundation of the Oak Ridge Department is the training school where rookie firemen train for two weeks before taking up their duties. Here they are given the standard firemens' evolutions, plus specialized training to meet local conditions. They are taught how to combat the different types of fires, use gas masks, make rescues, handle the necessary "paper work" and utilize the water ponds and other auxiliary water supplies where hydrants are not available. They are trained, as well, in the use of all the fire department equipment, which includes brush trucks, crash trucks, a training truck, and reserve apparatus as well as the orthodox equipment.

Before a fireman is accepted he must pass a standard I.Q. test and present his driver's license. He must then pass a Government driving test and undergo intensive two weeks' training period at the school and elsewhere on simulated fire drills.

In the early days, before roads were ready or airplane fire spotting was undertaken, fire guards rode horseback over the area.

Combined with training, the department conducts a continual educational campaign to inform citizens and workers on fire prevention and fire extinguishment. The gospel is spread all over Oak Ridge largely by means of the department's trailer truck, which is taken right to the people, with its miniature houses, and demonstrating equipment, in charge of Fire Prevention Supervisor H. Mills and Capt. J. Fullam.

Communications Are Important

Oak Ridge has an excellent fire alarm system, including two-way radio on certain of its fire department vehicles. Fire alarm signal boxes are strategically located and connected with communication headquarters at Townsite. Oak Ridge Hospital is likewise directly connected with headquarters.

Oak Ridge firemen work twenty-four hours straight and take twenty-four hours off, except for some shop personnel who work eight-hour days. When not training and fighting fire, firemen are busy with the brasswork and other chores.

The Oak Ridge Fire Department isn't particularly busy right now, but it might be at any moment. Fire losses for the community, with its 75,000 persons, amounted to $95,000 during the last twelvemonth period.

How "Walkie-Talkies" Served at Empire State Building Fire

Pack-Set Radio Proves Invaluable in Directing Ground-to-Cloud Operations

By ART H. MEYERSON

Editor's Note: The collision and fire involving the Empire State Building July 28th last was unique in the annals of American fire-fighting.

Among other things, the tragedy demonstrated the need of effective liaison and communications between fire-fighting and other emergency units at the scene of the catastrophe, and between these units and their respective headquarters.

Fire officers know that the greater the area involved in any disaster, and the greater and more diversified the number of emergency units called into operation, the more difficult the task of maintaining liaison between all forces. This was demonstrated, time and again during the blitz in England.*

It is further true that in these large-scale disasters, normal communications are too often disrupted, if not destroyed. In his report to the Mayor, Patrick Walsh, Commissioner and Chief of Department said:

"The blast occuring on the 78th and 79th floors disrupted the house telephone system, making intercommunication most difficult."

The Commissioner and Chief further states in his report:

"The co-ordination of all the . . . company operations covering three separated but related fires, was greatly facilitated by the use of the Fire Department's short wave radio pack-sets. Operated by Firemen Meyerson and Gertsen, the short wave radio proved itself of unmistakable value maintaining liaison between the officers in charge of the entire operations and those directing extinguishing activities at the particular spots involved. This was particularly valuable because of the confused and unreliable conditions of telephone communications at the time. The pack radio supplied a walking eye for the Chief in Charge."

In its staff report on the Empire State Building fire** FIRE ENGINEERING stressed the important part that both short-wave fire and police, and commercial broadcast radio played in meeting the emergency. At the time that account was written, the details of the excellent work done by the Fire Department's short-wave "Walkie-Talkies" were not known. Since then, however, the New York Fire Department has courteously made available much of the story of how its pack-sets functioned at the scene. The editors are privileged, therefore, to bring to their readers these particulars over the signature of one of the two firemen-operators who actually handled the on-the-ground (and in-the-air) shortwave communications during the trying hours of the emergency, Fireman Art H. Meyerson.

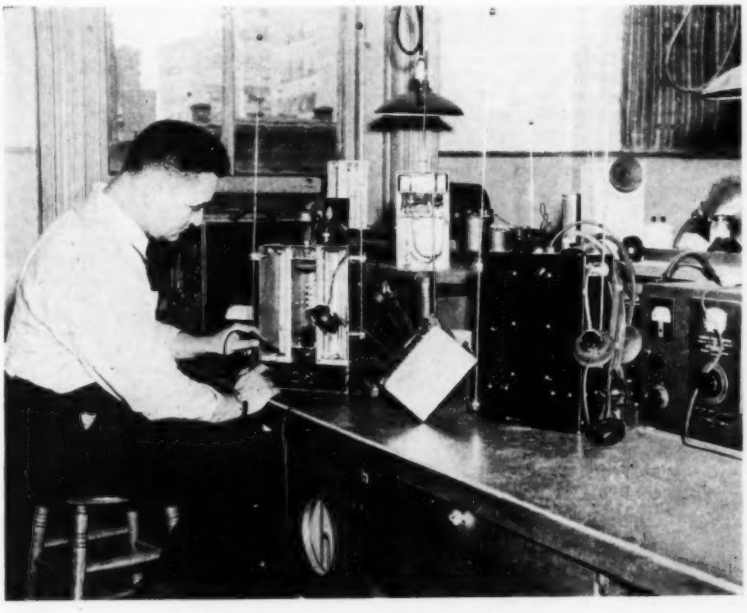
The editors further acknowledge with thanks the cooperation of Commissioner and Chief of Department, Patrick Walsh and other officials of the New York Fire Department, in permitting publication of Fireman Myerson's unofficial log of operations.

*FIRE ENGINEERING, September, 1945, page 671.
**FIRE ENGINEERING, August, 1945, page 553.

UPON receiving signal 2-2-681 (second alarm, box 681, 31st and Fifth Avenue), at 9:55 A.M., the fire radio car responded to the scene of the alarm, where I found the fire to be in the upper stories of the Empire State Building, 33rd and Fifth Avenue.

We reported to Deputy Chief Gerhardt Bryant of the 3rd Division—Fireman C. Gertsen and myself—and I was ordered by him to proceed to the fire floors of the building while Fireman Gertsen remained with Deputy Chief Bryant, who was in command of the fire.

I found that elevator service in the building was still being maintained as far as the 67th floor. However, I turned out on the 65th floor as the starting point to investigate conditions and to see if any persons needed medical attention. Contact via our pack-sets was



Original N.Y.F.D. Radio Research Laboratory

Here the Department's pack set radio was developed by Department Technicians Art Meyerson and Samuel Harmatuk.

Fire Department Radio Pack Set in Operation at Empire State Fire

Fireman Art Meyerson relaying instructions from Captain Irwin, Supervising Engineer, N.Y.F.D., to locate the building's engineer and have him report to the fire floor. Nine victims were removed from this wrecked office on the 79th floor.

established with Fireman Gertsen at this point.

As I proceeded floor by floor to the 78th floor, I reported conditions as I found them and received acknowledgment from the street level. The search was materially aided by the presence of building employees on each floor who reported to me what conditions obtained. No seriously injured persons were encountered at this stage, and those with minor injuries had been evacuated to the street. This reduction of the life hazard on these floors below the fire area was encouraging. The entire survey procedure took about fifteen minutes, during which time radio contact was maintained.

Upon arriving at the 78th floor and subsequently the 79th, I notified Chief Bryant by way of Fireman Gertsen that the fire had been brought under control. On the 78th floor I encountered His Honor. Mayor Fiorello H. LaGuardia, who inquired if I knew where Commissioner Patrick Walsh could be found. I notified the Mayor that he had last been seen on the fire floor. The Mayor then asked me how the pack-sets were working and I told him that no difficulties had been experienced in their operation.

Checking High Voltage System

Chief Bryant next ordered me to proceed to the mast of the building, which starts at the 85th floor, inasmuch as a message had been received over the radio set of Rescue No. 1 from the Fire Alarm Telegraph Bureau via Station WNYF, that some people had been injured on the upper floors. On the way up the mast, Fireman Gertsen called me and asked that I investigate the condition of the building's high voltage system, much equipment of which was located on the 82nd floor. This request came from representatives of the New York Edison Company who had reported to the fire scene for duty. I located the building employee in charge on the 82nd floor who informed me that the high voltage system was unharmed. This message was relayed to the Edison men by Fireman Gertsen.

Upon arriving at the 86th floor, I met the building employee in charge of the mast who informed me that all the occupants of the mast area had been evacuated to the 86th floor and that those requiring first aid or medical treatment had been looked after. There were a number of building tenants and operating personnel on this floor, which is occupied by a cafeteria, and they were quite relieved to learn that the fire below them had been brought under control. (The psychological effect of having a fireman equipped with radio and able to hold conversation with his fellow firemen almost a thousand feet below must have been reassuring to those who believed themselves inperiled by fire, to say the least.—Editor's note.)

All this information was transmitted to Chief Bryant via pack-set.

Acting Battalion Chief W. P. Morris arrived at this time and I notified Chief Bryant. The Chief then had me advise Chief Morris that he was sending three engine companies to the 78th floor to relieve some of the operating companies, and that they, the relieving forces, were being instructed to report to Chief Morris. Soon after this I was ordered to report back to the fire floors.

Radio a Help in Overhauling

The fire had by now been completely extinguished and overhauling operations had started. Captain Irwin, of the Fire Supervising Service, requested that I locate the building engineer who was understood to be somewhere in the basement or sub-basement of the structure, approximately 925 feet below. I relayed this message to Fireman Gertsen who dispatched a messenger from the street level. When he had located the engineer and so informed me, I relayed Captain Irwin's message to him, requesting that he come up to the fire floor and informing him where he could find the Captain.

(It might be in order to emphasize at this point that radiophone communications, such as were employed at this fire, can be highly effective in overhauling operations, which may require additional personnel, special tools and equipment; and where it may be advisable to transmit records of the finding of victims, valuables, and evidence pointing to the cause and extent of the fire. The author purposely omitted reference to this phase of operations.—(Editor's note.)

During the course of operations several messages were received by telephone at Telegraph Bureau Headquarters for various municipal and government officials who were understood to be at the scene. These were relayed by Headquarters over Station WNYF and picked up by the receiver on Rescue Company No. 1 and then transmitted by packset to the fire area.

Ordinarily, telephone service could have been established to the upper floors in that area, but unfortunately, the telephone lines, which were carried through conduits in the elevator shafts, had been torn out at the time of the crash, so that the only form of communication was by means of the Fire Department pack-set. Later, the Police Department installed telephone service from the 67th floor to the 79th floor.

Many Army Messages Handled

All the Army messages from the fire floors to the street were handled by pack radio. Messages to Army officials from both LaGuardia and Mitchel Fields were likewise channeled in this manner.

Assistant Chief Timothy Donovan having arrived and assumed charge of the fire, Commissioner Walsh returned to the street level. The Commissioner was notified of the progress of overhauling operations and shortly ordered that all second and third alarm companies take up. At about this time Assistant Chief Donovan notified the Commissioner that he would require the services of three engine and three truck companies for overhauling, as well as the Rescue Company. The order was then given by Chief Donovan to reduce the high pressure, which had earlier been increased from 125 pounds to 175 pounds. This order was transmitted by pack-set to the street level, and from there by alarm box to Manhattan Telegraph Bureau Headquarters. Records indicate that the latter received this at 11:29 A.M.

During the period these messages were being transmitted, a complete description of the fire and resulting damage had been radioed via pack-set By this means members of the Department on the street level were kept apprised of conditions prevailing on the upper floors.

Both Firemen Gertsen and I were ordered to take up, at 4:00 P.M., by Chief Bryant, after six continuous hours of operation. It develops that this was the third longest period of operation of Departmental pack-set radio since the system was inaugurated. Pack-sets were used for seven and a half hours at the S.S. Normandie fire, and six and a half hours at the S.S. Algonquin fire.

No difficulties in transmission or reception were experienced except when

Pack Sets Used on Tall Buildings

N.Y.F.D. pack sets permit freedom of movement. Note twin antennæ and clearance for spade helmet.

operation was attempted from inside the tower. Even under these conditions, some reception was possible, so that either operator knew that he was being called. In addition, the mobility of the pack-sets was an important factor in the results achieved, inasmuch as the operator could proceed to deliver a message, and still be in contact with his partner at the other end. The wisdom of holding the weight of the sets to the minimum was demonstrated by the necessity of climbing many flights of stairs, stooping under and stepping over wreckage, and getting in and out of almost inaccessible places.

The excellent quality of transmission was responsible for the absence of any misinterpreted or misunderstood messages. Most two-way systems suffer from audio distortion, which is not considered important, because code signals are usually used in transmission. By this is meant the use of such qualifying expressions as "T for Thomas," or "P for Peter." However, the speed of message transmission is materially aided if these codes are rendered unnecessary.

Because of the excellent organization in Departmental fire-fighting procedure, the use of "Walkie-Talkies" during the actual period of the fire, and particularly its initial stages, could not have aided materially except where extraordinary conditions arose which called for more manpower and additional lines. These conditions could have been met even though the pack-sets were not on the fire floors inasmuch as the chief officers had been apprised of their location and service while I was investigating the other floors. Their greatest use at this particular fire was subsequent to its extinguishment. The fact that they were in use continuously from 10:00 A.M. to 4:00 P.M. is evidence that they performed a needed service.

History and Technical Details

The New York Fire Department's radio communication system, Station WNYF, made its bow on May 27, 1936. Originally designed as an emergency means of intercommunication between fire headquarters and units of the Marine Division, its scope has since been considerably broadened.

Today, operating on a frequency of 1,630 kilocycles, Station WNYF's messages are heard at all hours in every fire station in the city, as well as over various receivers in the fire, police and other services. Two-way radio installations have been fitted in official automobiles of top-ranking officers of the Department as well as on the apparatus of the rescue companies.

However, this type of equipment only partially solved the problem of communications at the fire scene. The need for mobile methods of communication covering the fire area and for facilities that would insure effective voice communication between the upper stories of the city's skyscrapers and the ground level was imperative.

In September, 1939, under the guidance of John J. McCarthy, Assistant Chief of Department in Command, a radio laboratory and workshop was fitted out in East 67th Street, above the quarters of Engine 39 and Hook & Ladder 16. Firemen Samuel N. Harmatuk—later to enter the armed forces—and Art H. Meyerson, both of Engine 31, were detailed to investigate further applications of mobile radio communication to fire-fighting.

Radio Serves at Empire State Crash

Fireman Gertsen receives reports from radio operator Meyerson speaking 1,000 feet above.

Primary experiments involved the development of pack radio equipment for transmission of messages within the fire area. Research included studies of all available commercial equipment, practically all of which at the time were found inadequate for fire use in one or more details.

Standards Developed by N.Y.F.D. Pack Sets

As a result of the research and experimental work conducted by the Fire Department technicians, the following standards were developed, for this type of portable radio communication sets:

1. Light weight
2. Compactness
3. Simplicity of operation
4. Long operational life
5. Freedom of operator's hands
6. Pack-to-pack operation
7. Sturdy, foolproof, and reasonably waterproof
8. Dependability
9. Sufficient range to cover area
10. It must be easy to service and adjust.

The two-way pack-set now used by the Department, more popularly known as "Walkie-Talkie," although not the last word, has successfully weathered numerous working tests "under fire" in addition to that described herein.

Briefly, the set now in use operates on an assigned frequency of 117.550 megacycles (ultra high frequency), measures 9 x 5 x 13½ inches, and weighs 13½ pounds. It has an operating life of from sixty to 100 hours, from a self-contained dry battery, and a maximum range under ideal conditions of from two to three miles. The circuit, a development of the New York Fire Department's Radio Laboratory, uses three tubes. One control, easily accessible, turns the set on or off, switches from "transmit" to "receive" and regulates the volume in the "receive" position. This type of operation is known as "simplex," which means that all transmission and reception is on the one frequency, and any pack-set can operate with any other pack-set in the Department. The sets are mechanically sturdy, waterproof and have never failed to operate at a fire.

Two years ago the Laboratory began experimenting with a smaller unit of the hand-set type for use by chief officers. This midget two-way set measures 5 x 10 x 3 inches and operates very much like a French hand telephone. It is carried suspended from a waist belt when not in use and weighs considerably less than five pounds. The battery is suspended from the back of the same belt, resembling a grenadier's pouch in appearance. Its operating life is the same as the pack-set, and its range is slightly less, but still capable of covering the fire area.

Nassau Chiefs Hold School

The Institute of Nassau Fire Officers held what may mark an innovation in fire service training, on the nights of September 18, 19 and 20 inclusive, at Hofstra College, Hempstead, L. I., N. Y. The training course was sponsored by the Fire Chiefs Council of Nassau County under the direction of the Institute Committee, Wilbur E. Seaman, fire marshal, chairman; George W. Clough, County Fire Marshal, vice-chairman and Messrs. Clowes Ross, Taff, Eiser, Stevens and Zerucha.

Sessions, which lasted from 7:30 p.m. each night until nearly midnight, were held in the spacious gymnasium of the College, and in general, were conducted along the lines of the annual Fire Department Instructor's Conference, Memphis, even to the traffic "stop-and-go" speakers signals.

Speakers on the program were: Chief Michael Zerucha; Rev. Arthur J. Pennell, invocation; Chief Mario A. Pollini, president, Chiefs Council, greetings; Hon. J. Russel Sprague, County Executive; Chairman Joseph W. Timberman, Fire Commission; Dr. John Cranford Adams, President, Hofstra College.

Also lecturers, Chief James Just, University of Maryland, topic: "What a Fireman Should and Should Not Know About Insurance Rates and Underwriters Labels"; Fred Shepperd, Editor, FIRE ENGINEERING, "The Post War Fireman"; Dr. William Arthur Ross, U. S. Office of Education, "This Thing Called Leadership"; Deputy Chief William H. Taubert, New York Fire Department, "Taxpayer Fires"; Charles S. Black, Chief Operator, Automobile Underwriters Detective Bureau, "Automobile Fires"—a motion picture.

Chief Samuel J. Pope, Boston Fire Department, President of the International Association of Fire Chiefs spoke on the topic: "Fire Chiefs—Post War Era"; Chief Rudolph H. Swanson, Jamestown Fire Department, President, New York State Association of Fire Chiefs spoke on "Post War Planning in Fire Departments" and Calvin Lauber, Engineer, National Board of Fire Underwriters, discussed "Water Spray Nozzles, Including Fog Nozzles, for Fire Fighting Use."

The sessions were attended by fire officers from not only Nassau but many other counties throughout the state.

NAVY FIRE FIGHTING TECHNIQUES TO BENEFIT CITY FIRE FIGHTERS

Experience and Equipment to Be Made Available to Peacetime Departments

By Jerry Daly

THE United States Navy has announced that through the International Association of Fire Chiefs, the International Association of Fire Fighters and the National Fire Protection Association, it intends to share with every interested civilian agency in the country, the fruits of five years of concentrated study and experiment in methods of Navy fire protection and fire prevention.

The Navy Department statement on September 8, said that "revolutionary fire fighting methods which saved Navy ships and personnel will save billions of dollars for civilians for post-war years." The statement further declared: "With the war over, thousands of Navy trained officers will return to their homes ardent believers in the Navy's new methods and equipment. These men have been matured by battle experience in controlling fires, and will have a profound influence in their respective communities. Their knowledge should give impetus to the nation's fire fighting service that will permit those agencies to control fire quicker and with much less resultant damage than heretofore."

The Navy statement is not alone a testimonial to the success of the Navy's all-purpose fog nozzle, but is a personal tribute to Commander Harold J. Burke, USNR, on military leave from the New York Fire Department. It was Commander Burke who organized the Navy's fire fighting program and introduced revolutionary fire fighting methods which have been credited with saving the USS Franklin, USS Bunker Hill, USS Saratoga, USS Ticonderoga and others.

The methods and the equipment developed to produce maximum efficiency in combatting flames of all types have saved the Navy thousands of lives and millions of dollars worth of ships and stores. Fire has literally been licked in Navy ships and shore bases.

When fully available to the general public the same methods and equipment are expected to help the United States conquer fire, which last year burned $442,000,000 in property and each year claims from 7,000 to 14,000 American lives.

New Tools; New Techniques

Results in the Navy have been achieved primarily through new tools and realistic training in perfected techniques of fire fighting. Actual fires were built as part of the training and the fires were as vicious and awe-inspiring as any encountered in battle. In the crucible of this caged inferno, sailors came to learn that they were the masters of smoke and flame.

Training alone, of course, was not sufficient. It required the concentrated effort of American researchers backed by the productive power of industry to design and fabricate the tools needed to master the critical fire menace in modern naval warfare.

Commander Harold J. Burke, U. S. N. R.

Until this war, fire fighting methods had been relatively static, with the exception of carbon dioxide, carbon tetrachloride and chemical foam extinguishers which had been in use of years, but limited. Never had there been such concentrated study of means to conquer fire as that prosecuted by the Navy in the past four years. The practical results of this Navy campaign against fire promises to save millions of dollars for property owners in years to come.

The Navy Department says that all applicable details of their fire fighting equipment and methods will be freely given to civil fire department, industrial firms, fire protection and insurance organizations as rapidly as demands of war permit. The means by which the Navy will share its know-how in the business of fire fighting are now the subject of study.

Training in the use of the battle-tested fire killing agents and gear is available now in a limited degree to municipal and industrial fire departments. The equipment itself can be obtained from manufacturers.

Already a large percentage of the members of the Boston Fire Department have been trained in Navy methods and the use of the new equipment at the Fire Fighting School of the Navy Yard Annex in South Boston. Five-man civilian classes have been in progress there for many months. Company fire fighters of the Bethlehem Steel Company and other shipbuilding firms have also been trained.

The Navy learned its present mastery of fire the hard way. Navy ships before the war had what was then considered adequate equipment and training and, under peacetime conditions, these were effective. However, in the early days of World War II, word came of destruction by fire following air attack and torpedoing of British vessels. Work was immediately begun. Then came Pearl Harbor. Navy men who were there were indoctrinated as fire fighters—they remember not bomb blasts and strafing but roaring flames.

The Navy looked for a fire fighter and found him in Commander (then Lieutenant) Harold J. Burke, USNR; a Deputy Chief of the New York Fire Department who had been head of the Marine Division. He had been called from reserve to active duty in the Navy in January, 1941, and was Commanding Officer of the mine sweeper, USS Gull, on North Atlantic duty. He held deck and engineering licenses and was a top-notch sweeper captain. But, more important was his first-hand experience with ship fires and—as later was proved—his faith in water fog and foam smothering agents as fire-killers and his unorthodox plans for a new technique of shipboard fire fighting.

Called to his new duty by Fleet Admiral Chester W. Nimitz, USN, then Chief of the Bureau of Navigation, Commander Burke went to work in the Damage Control Section of the Bureau of Ships. At that time Vice Admiral (then Captain) Edward L. Cochrane, USN, was head of the Design Section of the Bureau of Ships. Vice Admiral Cochrane was counsellor, advisor and backer of Burke's ideas. Today he is Chief of the Bureau of Ships and still mentor of Navy fire-fighters.

Commander Burke has accompanied invasion task forces and has served in every active theatre of the war, including the Mediterranean, France, Philippines, Saipan, Guam, Ulithi, and others in the Pacific theatre. He believes the only feasible method of perfecting technique or designing new equipment is to observe under battle conditions the fire damage resulting from enemy action. Today Commander Burke holds the opinion that the methods and equipment developed during the Navy's campaign against fire will revolutionize the technique of fighting all types of fire in the postwar period. Immediate usage undoubtedly will be made in marine fire departments of the cities of the United States. He says that the Navy's victory over fire was the result of coordinated team work of hundreds of professionals.

Schools Staffed With Trained Men

The emergency confronting the Navy in the early days of the war was the redesign of old equipment, development of new gear and aggressive techniques to conquer the fires which in this war produced one of the critical battle problems. Commander Burke had theories and practical ideas, but it required an organization to put them in practice. In order to staff the new Fire Fighting Schools with instructors, qualified fire fighting personnel had to be recruited and trained in the technique of fire fighting the Navy way so they in turn could spread their knowledge to the millions of men in the naval service.

In the emergency, help was sought by the Navy from the established fire fighting services of the country. Invitations were sent to qualified fire fighters in the

fire departments of metropolitan cities to volunteer for the duty. The response was instantaneous. Men came from fifty-eight of the principal cities of the country. New York, larger than all others, was the best represented. Other cities were proportionately represented, particularly coastal cities and those on inland waterways. At the end of the war there were 260 officers and 1,500 enlisted men in the Navy's fire fighting program who were on military leave from fire departments. The total of the Navy's fire fighting specialists plying their technique in ships or on shore establishments was 15,000 on V-J Day.

Another source of professional aid came to the Navy's program from the fire protection, fire prevention, fire engineering and fire underwriters fields which furnished fifty experts who served on Commander Burke's staff and were his key men in the field. Some of the accomplishments attained by Commander Burke's program were: training schools in eleven strategic locations; combat fire teams; fire consultant service; all-purpose fog nozzle; mechanical foam; oxycetylene portable cutting outfit; rescue breathing apparatus; Navy fire-fighting manual and training films.

Commander Burke predicts a direct use of the Navy type of training in municipal fire departments in the near future. He believes that city fire departments will build steel and concrete structures with basement and several stories. Such a building could have a section laid out to resemble a typical apartment; others could simulate a store; a loft; a factory workroom, etc., while the basement would permit training in fighting oil, coal, storeroom, furnace and rubbish fires. Such a structure, Commander Burke believes, would allow firemen to handle their equipment under conditions they actually must meet. He says that recruits would gain experience they might not otherwise gather in years of service. Particularly valuable, the fire fighting sailor declares, would be the proficiency and confidence gained in such training by recruits. He declared that water fog appliances are the heart of the Navy's fire fighting technique and predicts general adoption of similar nozzles by municipal fire departments for use in fighting fires of all types.

New York Seeks Coast Guard Fireboats

The New York Fire Department is attempting to obtain, without charge, four water-jet propelled Coast Guard fireboats which have been declared surplus, according to an announcement by Patrick J. Walsh, Fire Commissioner and Chief of Department.

The thirty-foot boats were used by the Coast Guard for port security work during the war. The Commissioner has written to Admiral Russell R. Waesche, commandant of the Coast Guard, asking that the craft be turned over to the city.

According to Lieutenant Commander Arthur F. Pfister, Coast Guard fireboat fleet officer, and former battalion chief of the New York Fire Department, Marine Division, the fireboats are extremely maneuverable, and their twenty-two inch draft makes them excellent for fighting fires among small slips and close to shore.

The boats have a ten-foot beam and are powered by four 115-h.p. Chrysler "Ace" gasoline engines. Each engine is connected directly to a Hanley centrifugal pump capable of pumping 800 gallons a minute at 150 pounds pressure. The pumps are set one inch below water-line and receive a constant head of water through suction bays.

The three-inch, T-shaped propulsion tube projects down through the bottom of the boat seven feet forward of the stern. At the point of the T-tube is a three-place valve. For full speed ahead the valve is opened and 3,000 gallons of water are shot from the tube giving the boat a seven-knot top speed. To back up, the valve is reversed and the water shoots out the other arm of the T-top.

The boats have two-inch main nozzles on a thirty-inch water tower (turret pipe). They also have two two-inch outlets fore and aft. With a siamese connection on each outlet, this makes possible ten water streams each delivering 300 GPM at 150 pounds pressure.

The boats were built in 1942 by the Hanley Engineering Company, Prospect, Ohio, at a cost of about $18,000 each. They take a five man crew, but there are no cabins or sleeping accommodations. Newark, N. J., owns two of the boats.

FREIGHT TRAIN COLLISION WITH TANKER MAKES HOT FIRE

Fog Nozzles Were Employed to Help Control Blaze That Threatens Riverside, Cal.

THREE men, engineer, fireman and brakeman, of an eastbound Santa Fe freight train were seriously burned when the train and a gasoline tank truck and trailer en route to nearby Marsh Field collided in Riverside, California.

The tanker, witnesses said, had stopped to wait the passing of a U. P. freight train, also eastbound. When this track was clear, the truck driver moved forward directly into the path of the oncoming Santa Fe freight. The cab and first section of the tanker had just cleared the track when the impact came. Wrenched from the truck and blazing furiously as the collision sent a shower of gasoline over the train engine, the rear truck tank was shoved 200 feet down the track right-of-way before the heavy train could be brought to a stop.

When the coupling of the truck and trailer broke, the driver was able to proceed to safety and move the vehicle about a block away to prevent an even greater disaster. The driver was uninjured but the three trainmen were all hospitalized from burns when flaming gasoline was thrown over the engine.

Prompt action by the Riverside Fire Department, which dispatched five pieces of equipment to the scene, controlled the furious fire, which, when eight towering palm trees on the right-of-way were ignited, threatened to communicate to storage tanks of the General Petroleum on the easterly side of the tracks. So intense was the heat that the roadbed was destroyed for some distance. The trailer was a total loss and the locomotive badly damaged.

Attracted by the pillar of fire and smoke and the sound of the accident, hundreds of pedestrians and motorists raced to the scene, creating what police describe as the worst traffic tangle in local traffic records. Police and auxiliaries, deputy sheriffs and military police finally cleared the immediate area and controlled the crowds.

The fire tied up both Santa Fe and Union Pacific railways for several hours, detaining freight trains with important war materiel. It necessitated special railroad wreckers to clear the wreckage and replace broken signal and communication facilities.

Both small and large water fog lines as well as straight streams were operated to extinguish the fire and cover exposures.

Straight Streams and Water Fog Used to Control Threatening Fire Resulting from Collision Between Gasoline Tank Truck and Freight Train.

KAISER DOCK FIRE COSTLIEST IN HISTORY OF PORTLAND AREA

Several of Seven Threatened Ships Damaged in $3,000,000 Blaze

A Staff Report

WITH a loss unofficially estimated at $3,000,000, the outfitting dock and adjacent buildings at Henry Kaiser's Oregon shipyard burned August 30 in the most costly blaze in the Portland area's history.

The blaze started when an acetylene line burst under the outfitting dock, igniting the wooden piling. From the piling, flames spread rapidly upward into the pipe shop, paint shop, tool shop and No. 1 dock shop, all built on the landward edge of the dock.

The outfitting dock, 2,800 feet long, was almost entirely consumed. At 8:10 A. M., when the fire started, according to Hal Babbitt yard public relations head, approximately 6,000 persons were at work on the pier, with another 6,000 scattered through the yard. Some of the employees assisted in fighting the fire; others went home.

After the pier had burned for several hours, four of the five huge cranes on the dock fell, three toward land and the fourth into the outfitting slip.

Although fear was expressed that several men had drowned after leaping from the ships tied to the burning dock, final checkup revealed no fatalities. Several persons dived into the river for safety and others risked their lives swimming across the slips to get lines on burning ships.

A number of ships were reported at the outfitting slip when the fire broke out. Of the seven afloat and nearing completion, four were Victory ships valued at $3,500,000 each and the remainder were attack transports worth $4,000,000 each. All were saved and were not heavily damaged. Blistered paint and partly burned woodwork were the chief losses.

On Way No. 2, about 200 feet from the fire, was the S. S. Billings Victory, scheduled for launching September 1. The launching crew stood by during the fire, ready to send the ship down the ways should flames threaten it. When the fire got out of control, tugs were called and all the ships in the outfitting slip were towed to the safety of the river. One, the S. S. Victory Jackson, was burning with a fireboat alongside pouring water into her.

Serious Explosion Averted

An explosion of disastrous proportions was averted by the immediate release of pressure on 140,000 pounds of carbide in the acetylene plant on the flaming dock. Shortly after the fire started, military police, company guards and firemen roped off the acetylene plant as a precautionary measure.

It is reported that most of the government-owned tools and installations in the $29,000,000 yard were not insured, although the ships and ships' materials were covered. Most of the papers in the dockside offices were saved, but the machinery was considered a total loss. At least one tenth the total cost of the yard was said to be in the construction of the outfitting dock.

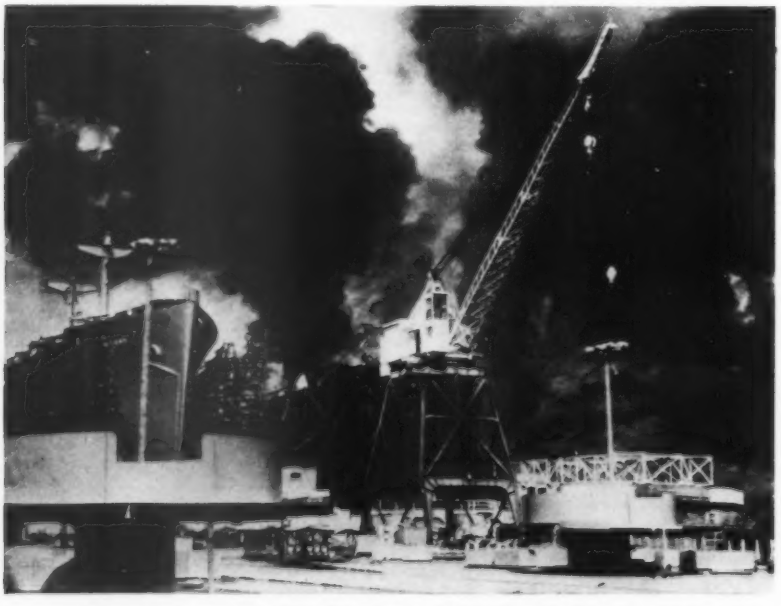
The yard's own fire brigade unsuccessfully attempted to fight the fire in its initial stages, and later summoned help from nearby Portland. Chief Edward Grenfell, of that city, promptly dispatched a three-alarm assignment of fire-fighters and equipment, including fireboats. These forces were instrumental in preventing further extension of the fire.

Coast guard fireboats operated on the ships and pier, and military and yard personnel assisted the yard and municipal brigades in completing long hose stretches, some of them reported carried across the water in the slip. Crews of two Harbor Patrol Boats, the Bonnie and F. W. Mulkey; firemen from the city's fireboat, the David Campbell, and four coast guardsmen swam out to ships in the slip, with shoreward lines which enabled tugs to remove them from further danger.

Flames from the burning dock shot far out over the water of the basin, and it was from this narrow strip of water that the firemen worked under greatest handicaps, continuously in danger of the five huge $75,000 cranes, four of which collapsed. Firemen and coastguardsmen operating on the land side were hampered by heavy smoke and threatened momentarily by explosion of the acetylene plant. The fireboat Campbell, Capt. Arnold Jacobs in charge, narrowly escaped destruction when one crane crashed and again, when it was pinned between one of the ships—the S. S. Glynn, and the dock. Another fireboat, the Carl Gunster, under Capt. Joe Allerton, was also in the thick of it.

By noon the fire was under control but it continued to burn for another day. Several firemen were overcome by smoke and two suffered burns when an oxygen tank in the machine shop blew up. Three persons were reported hospitalized, two of them firemen, Alan Malcolm, of the fireboat Gunstrom, overcome by smoke, and Harry Amacher, of Engine Co. 1, burned.

During the fire, dozens of Portland tugs and river steamers, coast guard vessels and fire barges and boats, churned the Willamette River, which was covered with charred timbers and boards, and gear jettisoned from the burning ships.



When the Fire in the Kaiser Shipyard at Portland, Ore., Was at Its Height

Fire Losses Increase $3,478,000 in August

Fire losses in August in the United States were estimated at $34,096,000, an increase of $3,478,000 or eleven per cent over losses in August, 1944, which totalled $30,618,000, it was announced by W. E. Mallalieu, General Manager of the National Board of Fire Underwriters. Last month's losses were the highest recorded for any August since 1930 when they totalled $36,043,679. The Board's estimates are based on incurred losses reported by member companies, plus an allowance for unreported and uninsured losses.

August losses were approximately one per cent more than losses of $34,054,000 reported for July, 1945. Losses in the twelve months ended with August 31, 1945, are estimated at $447,703,000 as compared with $412,888,000 for the year ending with August 31, 1944.

THREE ASSOCIATIONS HOLD JOINT CONVENTION AT YAKIMA

Pacific Coast Fire Chiefs' Assn., Washington Chief's and Firemen's Associations Meet Jointly

By Gibbons Clark

THE Pacific Coast Fire Chiefs, association; Washington State Fire Chiefs' association; and the Washington State Firemen's association held a successful convention in Yakima, Washington, on August 25-26.

Around 175 chiefs from the states of Washington, Idaho, Montana, Oregon, and California, in addition to firemen from all over Washington state attended the two-day conclave which included discussions and demonstrations.

Streamlined, and conducted in a strictly business-like manner, the meeting opened officially on Saturday morning, August 25, in the Commercial Hotel. On this opening day's program a discussion, by Chief Harold Bowhay of Bakersfield, California, of two-way radio fire fighting methods; a talk on pre-fire planning, by Chief William Fitzgerald, Seattle; an outline for a proper training program, given by Chief John Alderson, Los Angeles; and a talk on airplane crash fires, by Patrick King, fire prevention consultant at Fort Douglas.

Other first day's program events included the discussion highlights presented by Chief Charles Eisenbacher, Tacoma, Washington, on the disastrous Mayfair apartment house fire in Tacoma which took the lives of 18 persons. Chief Eisenbacher explained special problems met during the fighting of this fire.

Static Electricity Hazards Minor

George F. Prussing, Los Angeles, technical secretary of the Western Oil and Gas association, exploded what he called the static bogey. Only a scattering of authenticated cases of static fires have been reported despite the immense volume of gasoline handled daily by all kinds of people, he stated. Drag chains used on gasoline trucks are obsolete, and are ineffective unless the ground or roadway is moist. Instead, he advocated the use of the typical wire bond between the fill stem and tank truck which, for many years, has been standard practice at oil truck filling racks. He said that this procedure is very effective in "bleeding away" static.

Chief Edward Grenfell, Portland, Oregon, told the convention body that he had been astonished at the efficient management carried on by departments through the war period when so many of the departments' best men were serving in the military. He said that although conditions still remain bad, they were improving as these men returned.

The final discussion on the day's program was an interesting description, by Col. V. J. Schmidt, Seattle, and Lt. Col. C. F. Bisenius, Fort Lewis, Wash., of the methods used to combat fires started by Japanese balloons.

Saturday evening the demonstrations in fire fighting technique, under the direction of Fire Marshall W. K. Weaver, were held at the state fairgrounds. Due to war materials stored under the grandstand, produced by the Yakima branch of Kenworth Truck Corporation, the public was barred from witnessing the demonstrations.

Under the supervision of Captain J. R. Cook of the state board of vocational education, new and old methods of fire fighting were displayed. On exhibition were various kinds of fire fighting equipment.

Small chemical and water extinguishers were pitted against each other to prove the best one to use in fighting gasoline fires. The chemical type proved the best. Equally good results were achieved through the use of chemicals on gasoline fires set in rock piles. But water was very ineffective in fighting this type of fire.

Jess Thorpe, of the ninth service command, having first demonstrated various types and uses of fog nozzles on different types of fires, then showed their effectiveness against a sizable pit of burning gasoline and oil. Proving about as equally effective on such fires were high, as well as low, pressure fog sprays. In still another demonstration, a small building was set afire and methods of combatting this kind of fire were closely noted.

W. A. Groce, secretary to both the Washington state associations, aided in the use of, and spoke on, some of the various nozzles used during the demonstrations.

During the second, and closing day of the meeting, the only resolution adopted during the entire convention called for the immediate release of all former civilian firemen from the military to put an end to the manpower shortage which has critically hampered fire departments all during the war.

With the Pacific Coast Fire Chiefs' association having recently elected the ensuing year's officers at a prior regional meeting held in San Jose, California, the two Washington associations were the only convening bodies ballotting.

Chief Ernest Yett, Bremerton, was elevated to the presidency of the state fire chiefs' association. He formerly was first vice-president. Yett succeeds Clay A. Wolverton, Port Angeles.

Wilbur Morrison, Auburn, first vice president of the state firemen's association last year, was elected president of that organization. He takes over the duties of A. E. Melander, Pullman.

W. A. Groce, secretary of both state associations, helped to organize them 15 years ago. He and his wife were among the busiest persons at the convention. Groce has been in the fire fighting fraternity for 40 years, and for 17 years was state fire marshal. He now is special agent for the National Board of Fire Underwriters as well as executive director of the Washington State Defense council. Mrs. Groce assisted with the first day's registration.

Mrs. Frank Ethier, Seattle, secretary to Groce, served as convention secretary.

There were no special entertainments and no banquet on the convention schedule this year. The meeting was a streamlined version of the usual five-day conference held by the associations. No competitive drills or special schools were conducted this year.

German Prisoners of War Killed in Oslo Explosion

German war prisoners stand in line beside wreckage of a structure in Oslo, Norway, August 17, after ammunition exploded, killing at least forty-three German POW laborers and fifteen Norwegian soldiers guarding them.

Carlisle Township Has Unique Truck

Carlisle Township, Ohio, which covers twenty-five square miles directly south of Elyria, Ohio, and eighteen miles west of Cleveland, has made much progress since its Township Fire Department was organized in 1942. The present organization consists of a Chief, Harold Bruce, Assistant Chief and twenty-one firemen together with fifteen junior firemen from sixteen to twenty-one years of age. This personnel is well trained, the youths receiving the same schooling that is given their elders.

Recently the Carlisle Township Department added a novel fire truck to its equipment. This is a fire department tanker which the Carlisle firemen claim to be the largest of its kind in the United States. It carries 3,070 gallons of water and is equipped with an American Marsh 250 GPM front-mounted centrifugal pump, having two 1¼-inch pipe intakes permanently piped to the large tank.

The truck also has three 2½-inch pumper connections, one at the rear and one on each side of the tank on the front corners. With any of these connections operating with the department's Mack 500 GPM Model it is claimed five 1½-inch lines with various types of nozzles are available.

Other equipment carried include two lengths of hard suction, ladders, axes, pike-pole, one 300 gallon portable pump, straight and spray nozzles, brooms, two pump-tank extinguishers, 1½-inch hose and 2½-inch hose. The fittings and appliances are carried in cupboards on the side of the tanker, each cubicle being lighted. There are four spot-lights on the large tank, with two extra batteries and two spot-lights and three red lights on the front.

The tanker truck was built for the Carlisle Township Department to meet the requirement for a unit that would bring to the fire sufficient water supplies to insure effective fire-fighting. Chief Bruce believes that all rural fire departments should have some type of tanker to back up their fire pumpers where water supplies are limited. When the tanker is a complete fire fighting unit in itself—as is the case in this instance—this provides an extra piece of apparatus for the department.

The tank truck and all equipment was financed by the Carlisle firemen, who made a house-to-house canvas throughout the Township for funds. They received sufficient cash donations in four weeks to buy and equip the apparatus.

The Carlisle Fire Department has made an excellent record since its inception in 1942. It has responded to 89 fires with very little property damage.

Carlisle Township Department Takes Water to Fire

New 3,070-gallon tanker, with 250 GPM pump and water connections, can fight fire alone as well as serve as auxiliary water supply for standard fire department pumper.

New, Highly Adaptable Fog Tip on Monitor, Using Salt Water.

New Fog Tip Has Features

A new fog tip has been developed by fire fighters well known to the service, Captain Ed Lamb, former member of the San Francisco Fire Department; O. S. Peterson, Lt. (jg) USCGR, in charge of water side fire protection in the San Francisco area and Ed Raines, which has a number of novel features.

The device is compact and can be carried in the pocket of a turnout coat. It is adjustable and operates from "open" to "shut-off"—no shut-off pipe or gate being required for its use. It is claimed that it will fit any nozzle made, from ½-inch to 6-inch and that, used on a 1½-inch line at 100 PSI, one man can hold the nozzle without difficulty.

According to Captain Lamb, the fog delivered by the tip has no hollow center.

The illustration shows the tip on a monitor located on a fireboat, delivering a fog "stream" of approximately 90 ft.

Further experiments with the tip, using foam, are being conducted.

Fire Chiefs Sponsor Equipment Show

The Fire Chiefs' Association of Allegheny County, Penn., will hold a display of fire fighting equipment, in connection with its regular business sessions, from Sunday, October 28 to and including Tuesday, the 30th.

Fire company member, municipal and business officials and the public of the so-called Tri-State area of Pennsylvania, Ohio and W. Virginia are invited.

In his pronunciamento, Secretary Ross E. Blodgett says that the purpose of the display is to give the manufacturer an opportunity to show and demonstrate his products, and to grant the purchaser an opportunity to see and examine all products and determine definitely what is available. "In the past, "Mr. Blodgett says, much has been purchased by catalogue and through other advertising channels. This has not been entirely satisfactory. . . . The fire service is entitled to the finest and most modern equipment men and science can produce."

The displays will be held in Recreation Hall, Mayview, Penn., a suburb of Pittsburgh.

The Fire Chiefs' Association of Allegheny County represent 183 fire companies in Allegheny County, both paid and volunteer, having 377 pieces of apparatus. The president is A. L. Feller.

Midtown Blaze Set by Plane Crash

Two Navy Fighter Pilots were killed when planes locked wings and crashed into Downtown Miami, Fla., setting fire to warehouse.

Planes Fall Into Miami

A Navy plane, apparently in serious trouble and being shepherded toward safety by three other Navy aircraft on the night of September 21, tangled wings with one of the guiding aircraft over midtown Miami. The resultant crash killed four crewmen and caused a hot two-alarm fire in the business district.

Both planes were reported from the Melbourne (Fla.) air station. The plane in trouble passed over Miami Beach's crowded resort hotels and, losing altitude, traversed Biscayne Bay to the downtown section of Miami. It is said that before plunging into the city the pilot made efforts to warn of trouble by blinking his plane's lights.

One disabled craft plunged through the roof of a hardware warehouse, setting it and an adjoining garage ablaze. The other craft crashed in the street and struck the wall of the warehouse, where it also burned furiously.

N. Y. State Chiefs Pass Resolutions

The Board of Directors and other members of the New York State Association of Fire Chiefs met in Albany, N. Y., July 23rd, in place of the customary annual meeting of the Association, and adopted a number of Resolutions.

One of these, to establish a Division of Public Safety in the State, according to Secretary Henry Drake, is important, in that it plans to take away from all New York State departments any regulation of fire prevention and inspection and to place these under the new agency.

The Resolution, reported favorably upon by the organization, reads:

"RESOLVED: that the New York State Association of Fire Chiefs favors the enactment of legislation for New York State which will establish a Division of Public Safety, charged with the responsibility for the enforcement of all laws having to do with fire prevention and extinguishment and the safety of life and property from fires and fire hazards."

In another Resolution the Association recommends the appointment each year of the President of the Association as Vice President for New York State of the International Association of Fire Chiefs. Still another Resolution was adopted to send the President of the State Association to the meeting of the International Association and to pay his dues and traveling expenses.

The Association, in a formal Resolution, also approved, re-opened the subject of state training for firemen. The Resolution reads:

"RESOLVED, that the President be authorized to appoint a committee of five members to endeavor to secure the re-establishment of a suitable fire training program by the State of New York, and that such Committee shall work with similar committees from other interested organizations, including the Firemen's Association of the State of New York and the New York State Conference of Mayors, and Other Municipal Officials. . . ."

A copy of the Resolution was authorized sent to the other interests most affected.

The Association's Board formally adopted another Resolution, advocating the sale of OCD war emergency equipment to municipalities, in these words:

"RESOLVED, that this Association favors the sale by the government of OCD fire equipment to municipalities and fire companies at a nominal price."

Chief John N. Smith Retires

Chief John N. Smith of the Prince Albert, Saskatchewan, Fire Department, has retired after fifty years service to his community.

From 1895 to 1905 he served as a member of the old volunteer fire brigade. When the paid fire department was established in 1905 he became captain, serving in that capacity until 1915 when he became chief.

The Prince Albert Fire Department was maintained, operated and improved whenever necessary and wherever possible by Chief Smith during its forty years existence as a permanent force. He maintained that it was the first fire department in Canada to become a fully motorized one. This was accomplished in 1919. He was one of the first chiefs to buy a fire truck with a cab for the protection of the fire fighters in the severe winters encountered in Prince Edward.

He has been succeeded by John Becotte, who is serving as acting chief.

Going in for Dogs in a Big Way

The above shows former Chief Richard Lee Smith of Pittsburgh, Pa., who is quite a dog fancier. At his right is Sam Fink of Pittsburgh and, at his left, Mrs. Virginia Keckler of Greenville, Ohio, and Ray Cornwall of the Welders Service Company, Pittsburgh.

WITH OUR READERS

Relay Pumping Tests

To the Editor:

On August 22, 1945, I made some interesting tests on relay pumping, taking water from draft, using two 500-gallon pumpers, which I thought might be of interest to some of the readers of FIRE ENGINEERING.

Test No. 1: One thousand feet of hose was stretched from Pumper No. 1, a 500-G.P.M., to another 500-G.P.M. pump. We tested our pressure at Pump No. 2 with 1-inch nozzle tip attached. No. 1 pump was operating at 140 pounds pressure. We had a reading on tip of 44 pounds, with a discharge of 198 gallons per minute, showing a friction loss of approximately 9.8 pounds. To have had a 50-pound nozzle pressure we would have had to increase engine pressure approximately six pounds on the 1,000 feet of hose.

Test No. 2: Eight hundred feet of hose was stretched from Pump No. 2, using a 1-inch nozzle. Both pumps were operating at 140 pounds pressure. We had a reading showing 54 pounds nozzle pressure, a discharge of 217 gallons per minute and a friction loss of 10.5 pounds on the 800-foot stretch of hose.

Test No. 3: Tip was changed to ¾-inch with same stretch of 1,800 feet. Pumps operated at 140 pounds. A reading at tip showed a nozzle pressure of 65 pounds and a discharge of 135 gallons per minute.

Test No. 4: A 1-inch tip was put on the line and the pump pressure increased to 150 pounds on both pumps. We had a reading at nozzle of 72 pounds delivering 243 gallons per minute. Friction loss was 9¾ pounds.

Test No. 5: Tip was changed to a 1⅛-inch. No. 1 pump operated at 140 pounds and No. 2 at 115 pounds. We got a reading at nozzle of 43 pounds and a discharge of 243 gallons per minute.

Test No. 6: We finished tests by cutting Pumper No. 2 out and connecting the entire 1,800-foot stretch to Pumper No. 1 which operated at 200 pounds pressure. With a 1-inch nozzle we got a reading of 50 pounds and a discharge of 210 gallons per minute. This showed a friction loss of approximately 8⅓ pounds per hundred feet, which gave a very good working stream on such a long line.

Test No. 7: We then changed to a ¼-inch tip—pump operating at same pressure, 200 pounds. We had a nozzle reading of 72 pounds, delivering 140 gallons per minute, showing a friction loss of approximately 7 pounds per hundred feet. This demonstrated that it would be possible to pump water a greater distance using a ¾-inch tip and by reducing flow on smaller nozzle.

All tests were made with 500-gallon pumps and No. 1 pump taking water from draft with a 6-foot lift. Hose was 2½-inch cotton rubber lined double jacket. Note all tests were made on level as no back pressure is shown.

LLOYD M. STEELE, Chief
Fire Department
Ashford General Hospital
White Sulphur Springs, W. Va.

Fire Protection Progress at Long Beach

To the Editor:

Knowing your interest in the fire service in general, also your efforts in trying to elevate fire prevention to its most important place in the fire service, I thought you might be interested in the progress we have made in our city.

We are not classed as a large city, but we do have some of the problems confronting a large city on fire prevention matters.

Our Fire Prevention Bureau was established during the fiscal year of 1917-1918 with H. Stanley Ellis, former member of the Philadelphia Fire Department, receiving the appointment as Deputy Fire Marshal, and the only inspector at that time. This Bureau has continued to grow until the present personnel consists of a fire prevention engineer who heads up the Bureau, one photographer, four inspectors and one clerk. All members attached to the Bureau, except the fire prevention engineer, who is a civil service appointee, are detailed from the fire protection service, who is a civil service appointee, are detailed from the fire protection service, and have been hand picked for their ability in dealing with fire prevention matters.

For several years we have attempted to place the duties of fire prevention inspectors on a professional basis and to have the position recognized by proper compensation. In August, 1943, we were successful in convincing the Civil Service Commission of the importance of this position and they in turn secured approval from the City Council to create the classification of a new position now known as "Captain—Fire Prevention," with the same pay as "Captain—Fire Department." At this point, let me explain that the Bureau of Fire Prevention is one of the four bureaus of our fire department, and not a separate bureau of the city or under some other department.

After the classification was made, a promotional examination was held with the incumbent inspectors placing high on the list. Each year since the classification was made, we have attempted to fill the positions, but without success until this year when we were able to convince our city officials of its importance. This year the positions are to be filled, effective September 1, 1945, with pay equal to Captain—Fire Department, and Detective Sergeants in the Police Department.

We have always placed considerable responsibility on our inspectors and have backed up their judgment and decisions. For that reason they have shown a willingness to treat the position as more or less of an engineering profession. Their ability to deal with the public, to prepare evidence for court presentation, to cooperate with military officials of high rank, and many other characteristics peculiar to this highly specialized and technical position, have placed the Bureau of Fire Prevention in our city on a plane where it rightly belongs in the fire service. We feel we now have a technical bureau and not a convalescent ward, as this Bureau was known to be in years gone by.

A. C. DU REE, Chief,
Long Beach, Cal.

V-J Day Celebrations

To the Editor:

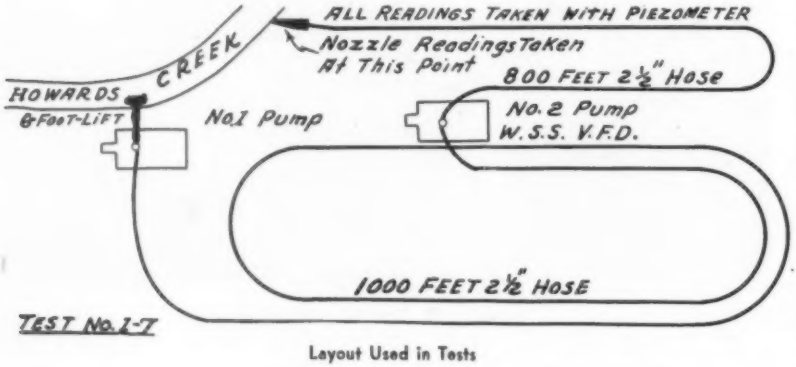
In our recent celebration of the acceptance of our surrender terms by the Japanese on August 14, 1945, a matter was brought to head in this city which has been causing more and more uneasiness as such celebrations occur.

In the past several years, on July 4, Halloween, etc., larger and larger groups of teen-age boys (and older people also) have been making tours of certain sections of this city, opening hydrants and then waiting around to dispute the right of police, fire or public works department employees to close them.

On the night in question at the height of the celebration, over twenty hydrants were open and flowing full at one time. A drop of over forty pounds in the line pressure was noted. About 1:00 A. M. a serious fire developed in one section of the city and a large quantity of truck and passenger tires and recapping equipment was destroyed. The drop in pressure was distinctly noticed at this fire and there was definite danger of a major conflagration developing from the loss of pressure if the practice had continued much longer.

Police officials were able to apprehend one man and several juveniles in the act of opening hydrants. All were summoned into court a couple days later. The cases of the juveniles were contin-

(*Continued on page 778*)

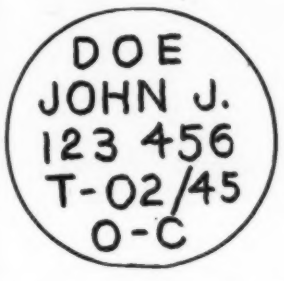


Layout Used in Tests

Short Cuts and Gadgets

"DOG TAGS FOR FIREMEN

It is not a pleasant thing to contemplate, but firemen-casualties who are hustled off to a hospital in their turnouts, injured on line of duty, cannot always be easily and quickly identified. Hence the following suggestion from Edward J. Kehoe, Lieut., USNR, is timely. He says:



"All members of the Armed Forces carry metal 'dog tags' (identification tags) which are usually worn around the neck. The accompanying illustration shows about the actual size of the tag and the information indicated thereon, namely, name, serial number or rank, date of last tetanus injection, blood type (O, A, B, AB) and religion (P, C, or J).

"The value of such data is obvious in case of unconsciousness, death or disaster. Why not use 'dogs tags' for fire department personnel?"

* * *

RINGS CAN BE DANGEROUS

Records indicate that finger rings worn by firemen while performing duty have been responsible for many accidents to the wearer, some serious, such as loss of the ring finger. Play safe—keep rings off while on duty. W.B.R.

* * *

A hooked knife, such as is used in trimming linoleum makes an excellent tool for cutting open upholstered furniture, mattresses, automobile seats, etc., to get at the fire, or for overhauling.

* * *

DEPOSIT F. D. "DEPOSITS" WATER!

An unique idea comes from contributor Hubert H. Howson, Westchester County, N. Y., who writes:

"We understand that the fire depaftment at Deposit, N. Y., has a fire district extending several miles in each direction from the fire house and that one point which they have to cover is a settlement around Lake Deposit, four miles from the fire house. The last mile and a half leading to this settlement is up a steep hill.

"One pumper which responds to this area is a 500-gallon pump carrying 1200-feet of 2½-inch hose and some smaller hose as well as a 500-gallon booster tank.

Noting that all the houses at this Lake Deposit settlement are near a water supply and that the 500-gallons of water make quite a heavy load, the department has installed a large dump-valve on the bottom of the booster tank and when they get a call for the Lake Deposit section they open the valve and drop the entire water-load as soon as they leave the fire house.

It has been estimated that dropping this load of water increases the speed of the truck approximately "one gear."

* * *

MORE ABOUT CHIMNEY FIRE APPLIANCES

From Fire Chief "Ollie" Sanborn, Portland, Maine, comes this communication:

In the August issue of FIRE ENGINEERING, page 590, is an article on a chimney fire applicator. We have been using what we call "chimney pipes" since 1924. I had one made up in the shop that year and it worked so successfully that they are now carried as part of the equipment on the apparatus.

Our appliance consists of five four-foot lengths of heavy brass pipe with couplings. On the end of one is a fitting to go on the pipe of the booster line, after removing the tip, and the top end has a goose-neck, with a pipe cap in which are bored small holes at various angles. The size of the pipe is ¾-inch.

This method of extinguishing a chimney fire is out-moded to a certain extent, as in the majority of cases we run an aerial ladder up alongside the chimney and work from the ladder. Recently we accepted delivery of two 65-foot aerials, so now we have five aerials, three 65's, one 85, all steel, and one 75-foot wood.

The Chief adds: "I am sending this information so you will know that Portland, Me., is still on the map, even though we do not 'blow our horn' much."

Thanks, Chief Sanborn.

* * *

HOW TO RESCUE A PERSON FROM QUICKSAND

A communication, received from George C. Ahrens,* West Englewood, N. J., contains a pertinent suggestion which we pass along as a "Short-Cut." Here it is, in Mr. Ahrens own words:

Almost weekly you read in the papers about men being caught in cave-ins or quicksand, whose lives are lost after much digging and shoring. Rescuers work for hours to release imprisoned persons, endangering themselves, as well.

About twenty years ago we had a similar occasion where one of our town employees was caught in a small spot of quicksand and imprisoned for hours. All this time his crew of sewer workers labored to release him but he continued to sink until one of the engineers called the fire department and asked that a 2½-inch hose line be brought through the woods to the site. This was done, and a nozzle, opened, was shoved down in the sand alongside one of the victim's legs.

When the water was turned on at the pump, he was jetted out in less than one minute.

If this information was published in your valuable magazine for the instruction of the numerous fire companies, paid and volunteer who read it, adds Mr. Ahrens, "perhaps it could be the means of saving some lives which might otherwise be lost," and he concludes: Incidentally, it saves a lot of shovelling in vain against a tide of light, muddy sand which fills the hole immediately you lift the shovel.

*Member, Teaneck, N. J. Fire Department.

* * *

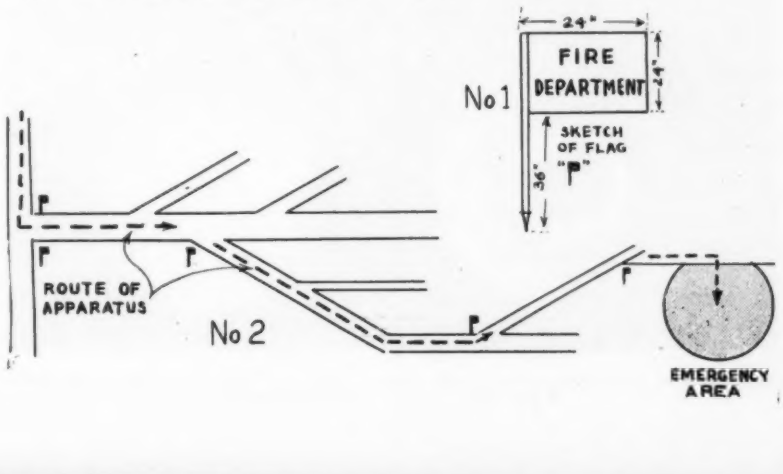
IDENTIFICATION TRAFFIC MARKER

From an old friend, Sergeant "Jim" Dorris, at Camp Lejeune, N. C., comes a suggestion that might prove helpful in responding to fires in unfamiliar areas.

Sergeant Dorris says: "We find that a flag, approximately 24 in. x 24 in. on a stake, 3 ft. high, and with a sharp end that can be stuck in the ground, stenciled "FIRE DEPARTMENT," is very beneficial in leading equipment, apparatus and working parties to the scene of fires and airplane crashes."

This can best be used by volunteer departments, military bases and forest fire forces. This method is used exclusively at this huge base for direction in handling forest and crash fires. The flags, or markers, are placed at intersections on the side of the road leading to the scene of the emergency. Herewith is a simple diagram that explains the idea.

P. S. The idea also might be to enable visiting county departments to find a community that is "host" at a meeting or conference.—Editors.



Manufacturers' Announcements

Cardox-Western Moves Office

Cardox-Western, Inc., subsidiary of Cardox Corporation and manufacturers of safety equipment, low pressure liquid carbon dioxide and dry ice, has moved its plant and general offices from 748 East Washington Boulevard, Los Angeles, to new and larger quarters at 151 North Avenue 19, Los Angeles 31, Cal. Cardox-Western, with five offices on the West Coast, is also distributor for Cardox fire extinguishing equipment and fire trucks.

New Reflector Announced

A light reflector of entirely different design is announced by the General Detroit Corp. and the General Pacific Corp. By means of a new principle of light reflection, it eliminates the "dark spot" produced by conventional reflectors. Called the Diamond Facet Reflector, it is made for use in flashlights, searchlights, lanterns, spotlights, and floodlights of all sizes and types. A special flashlight called "Floodbeem," which incorporates the new reflector, is also being marketed by the two corporations.

The Diamond Facet Reflector's design makes use of the fact that nothing reflects light like a diamond. In place of a smooth wall finish which causes light beams to clash with one another, this reflector has a surface broken into multiple diamond shapes to reflect all of the light.

The unretouched photograph shows how the conventional "dark spot" is eliminated. The circle on the left, made by a flashlight with an ordinary smooth-wall reflector, has a spot in the center. The one on the right, made by a "Floodbeem" flashlight is pure white light all over.

Ansul Chemical Company to Build New Dugas Plant

H. V. Higley, President (right) and F. J. Hood, Vice-President of Ansul Chemical Company, Marinette, Wis., turn over the first dirt in a ground-breaking ceremony, June 28, for a new structure for the company's Dugas Division. The building, 121 feet wide and 291 feet long, will house manufacturing operations for Dugas fire extinguishers and is expected to be completed this fall. The brief, but impressive, ceremony marking the start of construction, was attended by the firm's employees, some of whom are pictured.

Gamewell Awarded Army-Navy "E"

Mr. Benedict J. Baker, Chairman of the Boards of The Gamewell Company and its subsidiaries, recently announced the reception of the Army-Navy Production Award for the meritorious production of war equipment.

Gamewell's contributions to the war effort included the production of more than 500 fire alarm and other protective signaling systems for the military properties of the Allied Nations including the plants in which the Atomic bomb was developed and produced; equipment for radar systems; gyroscope compass control panels; special gunfire control computers; precision potentiometers; and teletype regenerative repeaters.

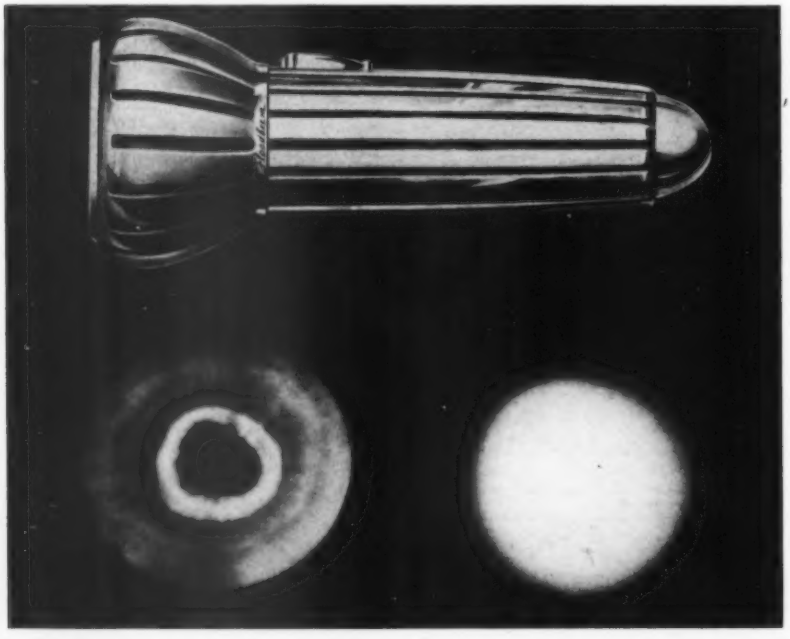
Gamewell's wholly owned subsidiaries, Rockwood Sprinkler Company, Worcester, Massachusetts, and Eagle Signal Corporation, Moline, Illinois, have previously received similar awards. Rockwood's production for war included the fire extinguishing WaterFOG for the protection of several thousand ships, and automatic sprinkler systems for Army hospitals and warehouses. Eagle manufactured for the Army code transmitters; field connection units; locking release mechanisms for the Norden bombsight; and timers for jet propulsion engines, radar units and for war material including rocket powder and fire bombs.

Having been engaged throughout the war period in the production of its standard lines of fire signaling and other protective equipment, Gamewell's reconversion problems are simple and involve merely the procurement of essential materials in adequate quantities.

Due to the restricted use of suitable materials and manpower during the past six years most if not all cities find themselves with signaling systems that have not only deteriorated more rapidly than normally but are lacking in capacity to afford adequate protection. To regain lost ground cities are planning to rehabilitate not only their fire defenses but all other municipal utilities on a scale that is expected to tax the productive facilities of manufacturers during the era of reconstruction.

Gamewell, said Mr. Baker, will do its part in solving the problems now presented and will bring to bear increased manufacturing facilities and improved techniques acquired as a result of wartime experience.

(*Continued on page 792*)



New Reflector Concentrates Light: Left, Pattern Made by Light with Ordinary Reflector; Right, Pattern Made by New Reflector.

The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

FIRE DEPARTMENT EXPERIENCE SHOULD BE REWARDED

THE discussion in this round table is a continuation of that which appeared in the September issue of FIRE ENGINEERING on choosing a chief for his experience even if he is over-age.

The generous response from our readers made it necessary to carry the discussion over to this issue.

Readers are invited to send in their comments on this subject or on next month's subject which is described in a box on a following page. Address communications to Round Table Editor, FIRE ENGINEERING, 24 West 40 Street, New York, N. Y.

Discussion of the Topic

S. D. O'Conor, Chief, Beaumont, Tex.: I do not believe the Board of Fire Commissioners are acting wisely in this case. To throw open the positions now held by MacArthur, Nimitz, Halsey and others in the armed forces to the public would make just about as much sense as to allow citizens without fire fighting experience to take the examination for chief.

It seems to me that the acting chief has demonstrated his ability to hold down the job of chief since he has by hard work, performance of duty, study and executive ability advanced up through the ranks to acting chief. What other qualifications could anyone ask for in a man if ability is what is wanted?

In my opinion there shouldn't have been any hesitancy in appointing him permanent chief, not only from the standpoint of justice to him and the men in the fire department but for the good of the general public. It is small inducement to the men in the ranks to know that when a promotion to the position of chief is open, that someone who may have never been inside a fire station may get it because he can pass a better examination due in many cases to the fact that the facilities given him to get an education were far better than the men who had devoted their lives to the fire service. I am opposed to the appointment of anyone without fire department experience to any position of advancement in the fire service. If they could appoint an outsider to the position of chief, it is entirely possible then any position from lieutanant on up could go to an outsider.

Leo J. Urbanski, Chief, St. Joseph, Mo.: The chief's physical condition should be taken into consideration first. There is no denying the fact that some men are senile at sixty, while many of our most outstanding men are brilliant at seventy and above.

Any man with approximately thirty years service, who has advanced through efficient performance is definitely too valuable to be shelved, if he is physically and mentally capable to perform the duties required.

I believe the civil service laws should be so amended.

Joseph L. Trudell, Chief, Bay City, Mich.: I most heartily disapprove of the action of the Board of Fire Commissioners in considering the replacement of this tried and true officer. Many men at sixty-one years of age are much younger than some men at fifty-one. If this chief's health permits, there is no question but what his services should be retained. It would be a very unjust move to appoint someone else as chief. He has spent the best years of his life in the public service and his experience far outweighs the age limitations. Any experienced officer knows that just the presence of a department head with this man's experience at a fire of any proportions has a tendency to boost the morale of the men and give them much needed confidence and trust in their leader.

The soundest solution to this situation would be to promote this man to the permanent position of chief.

H. P. Constantine, Chief, Bangor, Me.: I believe that a man who has worked up through the ranks and is qualified to fill the position should be given preference. I do not believe that the position should be given to an outsider while there is a man in the department who can fill it.

Many times the older man with the experience and ability has to do the chief's work where you take a chief from outside the ranks.

There are many permanent chiefs throughout the country who are past sixty-one and doing a marvelous job, especially during the past five war years.

Thomas F. Gussner, Chief, Bloomfield, N. J.: In fairness to the municipality involved, I believe that the Board of Fire Commissioners should elevate the assistant chief to chief. A man who has had the years of experience and who has proved himself to be an outstanding fire officer, would be, in my opinion, the logical person to be made chief, rather than to bring in an outsider and younger man with less ability and very little experience.

Ben J. Zahn, Chief, Ann Arbor, Mich.: If the present acting chief is active and able bodied, and has the ability to carry out the functions of the office of chief and has the cooperation of the members of his department, then I believe the Board of Fire Commissioners are acting very unwisely in not appointing him chief.

If the man does not possess the administrative ability, nor can expect cooperation from fire personnel, his experience may be outweighed.

I believe that the examination should be open to only those people who have had several years of fire department work to their credit.

Lee P. Harrington, Chief, Waco, Tex.: In my opinion, if the subject has been a fireman since 1916 and has performed efficiently and advanced through civil service to the position of assistant chief, I see no reason why he shouldn't be appointed chief. If he can't deliver the goods, then someone else could be tried.

If any city has to go outside of the local fire department to select their chief then someone has fallen down on the advancement of the fire department. They might just as well start all over.

M. G. Bennett, Chief, Orlando, Fla.: I believe that the Board of Fire Commissioners are acting unwisely in this case for it is likely to have a demoralizing effect on the rest of the members of the fire department by bringing in an inexperienced man for their chief.

In this instance, it seems that experience and ability outweigh the age limitation to a great extent, and it is my opinion that the Board of Fire Commissioners should if possible have the law changed extending the age

HERE IS THE QUESTION

A fireman entered a fire department in 1916, and through efficient performance of duty and self-preparation advanced by civil service examinations, to the position of Assistant Chief. He was temporarily appointed Acting Chief upon retirement of the Chief, and is considered an outstanding fire officer.

To select a permanent Chief, the Board of Fire Commissioners is to hold an examination open to "any citizen within the boundary limits of the city, and each applicant must be between the ages of twenty-five and fifty-five years."

The present Acting Chief is sixty-one years of age, so he will be automatically barred from the examination.

1. **Do you believe the Board of Fire Commisisoners are acting wisely in this case?**
2. **Do you feel that experience and ability in this instance outweigh the age limitation?**
3. **What, do you believe, would be the soundest and most equitable solution to this situation?**

limit or confine the examination to the next ranking officers of the fire department and select one of the three high men for this position.

Clyde L. Peterson, Chief, Ogden, Utah: Providing that the now acting chief is in good health and is physically fit, he should be appointed chief of department.

In fact, I believe he should be automatically promoted to the position of chief. All officers holding the next lowest rank should be given an examination for assistant chief and then the man with the highest mark given the position, provided that in the opinion of the Board of Fire Commissioners he is eligible and can handle the job.

In order to maintain efficiency in the department the men should be allowed to advance according to their individual merits and intelligence. Positions of this kind should not come from the outside, for it would tend to break down the morale of the personnel within the department.

It seems to me that the Board of Fire Commissioners in this case are not interested in building up the efficiency of the department, but are trying to make a political setup out of this promotion.

F. L. Campion, Chief, Fargo, N. D.: As long as the present acting chief is physically and mentally fit, he should not be eliminated from taking the examination. He has shown by his administration of the office of chief that he is capable of continuing as permanent chief.

The passage relating to any citizen within the city limits taking the test for chief seems to me to be rather far-fetched for the selection of such a vital position as chief of the fire department. Before anyone takes the examination for chief, he should have at least ten years active service in the fire department.

Charles E. Love, Assistant Chief, Great Falls, Mont.: I believe that the assistant chief should have the chief's position regardless of his age if he is active and in good health. He has proved his ability by getting to be assistant chief. I don't believe the Board of Fire Commissioners are using very good judgment in this case.

A. McC. Marsh, Chief, Columbia, S. C.: A man who has the qualifications and in addition, years of experience naturally is better qualified to serve as chief of a fire department. Many men in the work are younger at fifty-five to seventy-five years of age than men between twenty-five and fifty-five. Age should play no part as long as a man is physically and mentally active enough to carry on his work. When this condition exists, age is certainly a "balance wheel" in the execution of the duties of a chief, or in any business for that matter. This has been demonstrated in every walk of life since the creation of man.

If I am worth anything today as a fire chief, it is due to my long years of experience—forty years in the department and twenty-one years of this time as chief. The last few years of a chief's service can be given to his active duties and to the training of a man in the department to succeed him upon retirement.

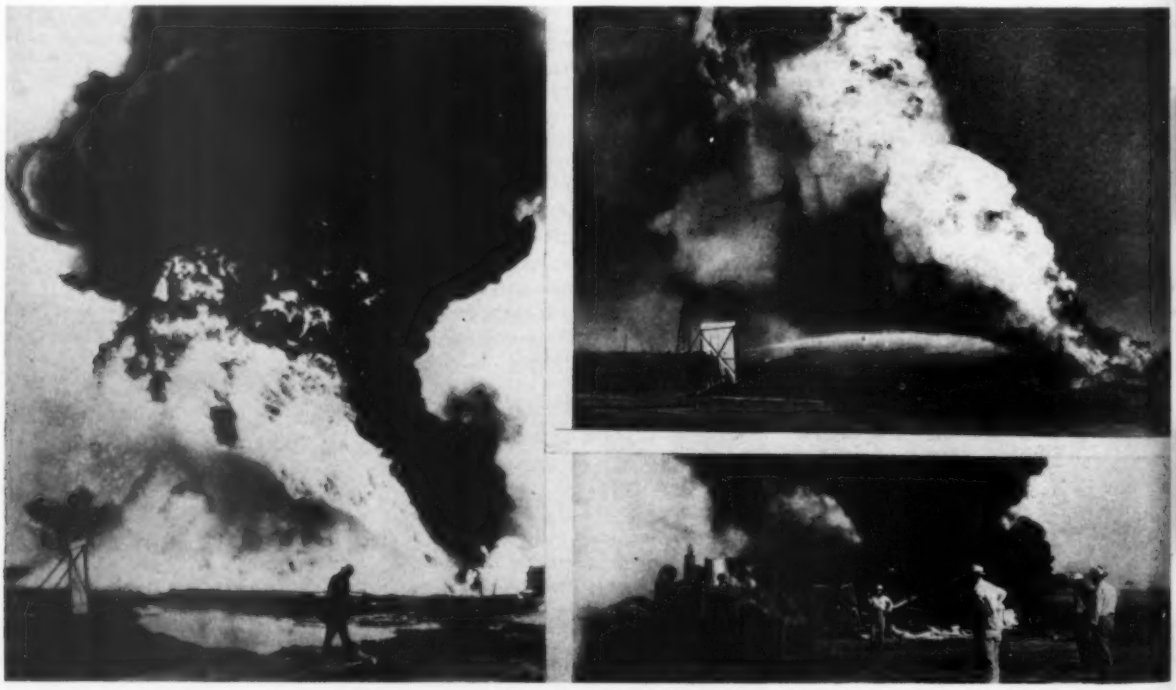
In conclusion, I emphatically believe, taking everything into consideration, that age should not be considered in the retirement of a chief or a fireman. It is constructive work and efficient service that counts.

H. E. Roberts, Acting Chief, Monroe, La.: The acting chief, I believe, is the answer to the situation. He has the experience and is well qualified. He

(*Continued on page 790*)

HERE IS THE QUESTION FOR THE NEXT ISSUE

1. **What, in your opinion, should be the booster tank capacity on apparatus used for (a) brush and (b) rural fires?**
2. **What per cent of fires, (a) brush and (b) rural, are controlled with booster lines supplied only by water from booster tank?**
3. **How is the water in booster tank replenished when operating at fires beyond reach of municipal supplies?**
4. **What special appliances or equipment do you feel are desirable or necessary on these units?**



Modern Equipment Used to Control Oil Well Fire

The illustrations above show fire control operations at the Phillips Petroleum Company's No. 1 Airport well, West Edmond, Okla., which took fire from unknown causes on September 7. Left: The fire at its height. Shield for use by nozzlemen has been set up as shown. Upper Right: Heavy stream has been brought into play on fire. Lower Right: After fire has been partially subdued, a bulldozer removes obstructing debris to clear the ground for final extinguishing operations by firemen. (Front cover of this issue shows firemen, protected by water spray, attaching cable to wreckage.)

Presenting the

Scott Air-Pak

SELF-CONTAINED BREATHING APPARATUS

QUICK FACTS CONCERNING ITS SUPERIORITY—AS TOLD BY THOSE WHO HAVE USED IT UNDER ACTUAL WORKING CONDITIONS

"READY FOR USE IN LESS THAN ONE MINUTE"—no lengthy and worrysome make ready time.

"ABSOLUTELY CLEAR LENSES WHILE IN USE—NO FOGGING"—the pure cool breathing air prevents all fogging.

"INSPIRES CONFIDENCE IN MEN"—utter simplicity and complete lack of complicated preparatory technique eliminates nervousness—conserves air supply.

"ALL PURPOSE WORKING EQUIPMENT"—not just rescue apparatus.

The quotations herewith were taken from remarks made by members of fire departments and industry where the Scott Air-Pak has been in service.

"NO COMPLICATED TRAINING AND PRACTICE NECESSARY"—anyone can use it with little or no previous practice.

"FRESH, COOL AIR—NOT OXYGEN-FOR *EVERY* BREATHING HAZARD"—you bring your breathing air to the hazard—not refine it at the scene.

"CONSTANT, DEPENDABLE CHECK OF AIR REMAINING IN SUPPLY TANK"—high pressure gauge and clear faced dial with illuminated figures.

"QUICK-CONNECT BETWEEN REGULATOR AND LOW PRESSURE HOSE"—saves breathing air for actual use.

BREATHE FRESH, COOL AIR---

Scott Air-Pak

IN EVERY BREATHING HAZARD

The Scott Air-Pak is a self contained breathing apparatus which delivers to the user, through a demand-type regulator, fresh cool breathing air—not oxygen—for every breathing hazard. The air supply is carried to the hazard under compression in a strong, light weight cylinder. No chemicals are used. No rebreathing of stale air. The basic principle of the Scott Air-Pak design is the same as utilized by many thousands of our air force flying personnel who have had to depend on this type of equipment for life itself during all high altitude missions.

In October, 1944 the Scott Air-Pak satisfactorily passed a most rigorous series of company-conducted tests which proved it markedly superior to any existing breathing safety equipment currently in use. Scott then announced its development to fire departments and industry but withheld its technical details until the pressure of war production had been lifted. In the interim, Scott Air-Paks were placed in the hands of fire departments and many of those industries where breathing hazards existed. Since then these models have been subjected to the most severe service testing. They have even been proved thoroughly dependable for underwater use—an application for self contained breathing apparatus never before satisfactorily achieved.

Today the fully-tested Scott Air-Pak is in production. Here, in brief, are its applications together with the expressed plans of those who have tested it:

1. FIRE DEPARTMENTS

Plan to equip each truck with two Air-Paks. Because the Scott Air-Pak can be donned in less than 30 seconds, it will be immediately employed, on arrival, in the initial investigation of the fire at its source. The possibility of the use of small booster lines or portable extinguishers is expected to greatly reduce water damage. The Scott Air-Pak will be utilized in fighting all fires where a breathing hazard is discovered, also for opening windows *from* the inside thus reducing ventilating damage and, of course, for rescue work where men have been overcome or fallen through floors into flooded cellars, etc.

2. INDUSTRIAL

(Chemical plants, oil refineries, oil fields, etc.) For laboratory use and rescue work, the sling-type Scott Air-Pak is favored. Many plan to install the Scott Air-Pak and Wall Case at the entrance to all danger areas and at plant fire fighting stations where it will be immediately available when needed. The complete breathing protection provided, and the simplicity of use make it ideal for such applications.

3. POLICE AND PARKS DEPTS., VOLUNTEER COMPANIES

The Scott Air-Pak has proved an ideal safeguard against the hazards encountered in underwater rescue work at swimming and wading pools, beaches, etc., and for entering areas where domestic gas, tear gas or fumigating gases have been released.

4. MARINE, RAILROAD, TRUCK CARRIERS

For the efficient cleaning of tankers, barges, tank

Copyright 1945, Scott Aviation Corp., Lancaster, N. Y.

Two Practical, Reliable, Compact Models

cars and tank trucks, the Scott Air-Pak is particularly desirable. No cumbersome oxygen or air lines need be carried into the tank. No possible fouling of hose. Complete freedom of movement. Saves time—Increases efficiency.

5. GENERAL APPLICATIONS

For use in any breathing hazard. *(Caution should be exercised however, before entering atmospheres that will poison through the skin such as where high concentrations of ammonia or even low concentrations of hydrogen cyanide exist.)* In general, the Scott Air-Pak will deliver fresh, cool breathing air with no fogging of lenses, no bothersome and costly make-ready time—no extensive instruction and practice—to every user, in every breathing hazard.

Left: Breathing through the open end of hose before entering danger zone conserves air supply, an exclusive feature made possible by the Scott Air-Pak Quick-Connect. Center and right: Front and back views of Scott Air-Pak with face set hose connected to regulator and apparatus ready for immediate use.

Scott Air-Pak

FULL-VISION FACE SET

The face set used with the Scott Air-Pak has been approved by the Bureau of Mines. Widely known as the "Willson Mask", it was carefully selected from among all others because it ideally fills every service requirement of the apparatus.

Among its features is the complete elimination of *all* lens fogging while in use. This is due jointly to the fresh, cool breathing air supplied the user—not saturated warm oxygen—and to the duct work of the mask allowing the cool dry air to pass over the lens.

The body of the face set is fully formed to the contour of the face from strong, pliable synthetic rubber and assures a positive seal against all exterior gases. The scientific design of the face set, together with the flexible rubber head straps, assures maximum comfort with no binding.

Contoured, laminated, shatter-proof lenses are cushioned in rubber and permit full, normal vision in all directions. They are large enough to serve efficiently but small enough to keep the weight of the face set to a minimum.

When on the face, the Scott Air-Pak Face Set provides ample clearance for the nose. Those who have used it never fail to remark its effortless, natural breathing, lightweight and extreme comfort.

Diaphragm type exhalation valve permits conversation at short range.

Scott Air-Pak

AIR CYLINDER AND VALVE

The Scott Air-Pak Compressed Air Cylinders are available in three sizes, all conforming to I.C.C. Regulation No. ICC-3A-1800. The heavy-duty cylinder contains 38.4 cubic feet of free air stored at 1800 lbs. pressure and tests show it will provide a one hour supply of cool, fresh breathing air under average, normal working conditions. Under the most extreme, violent exertion, the life of this cylinder is 30 minutes; weight 16.4 lbs. The medium size contains 28.8 cubic feet of free air stored at 1800 lbs. pressure and has a normal life of approximately 45 minutes—under violent exertion 20 minutes; weight 12.8 lbs. Both of the above are back-pack units. The sling-type contains 11 cubic feet of free air stored at 1800 lbs. pressure, weight 5 lbs. and has an average normal life of 16 minutes—under violent exertion 11 minutes.

All cylinders are made of cold drawn, chrome-molybdenum steel with Polymerin baked enamel finish. Specially designed forged brass valve seals in air indefinitely. High pressure gauge integral with the cylinder forestalls the accidental use of a cylinder from which the air has already been drawn. A Rose Metal safety plug and frangible diaphragm provides absolute protection against accidental overcharging or overheating of the cylinder. High pressure, brass, union coupling permits quick air cylinder exchange.

Replacement of a cylinder can be easily made on the back of the wearer in three to four minutes time. Close the cylinder valve, release the positive cylinder lock cam lever ,disconnect the union coupling, replace the cylinder and reverse the above procedure.

Scott Air-Pak

EASY-CARRY HARNESS

The Scott Air-Pak Harness has been carefully designed to provide freedom of motion and balanced distribution of the slight weight of the apparatus. Straps for the back pack are 2½" wide and made of neotexed cotton webbing with snap clips and self-locking slide buckles permitting quick adjustment for any size torso. The waist belt is furnished with an aircraft-type safety buckle and secures the entire assembly. Harness and fittings are treated to be acid and alkali resistant. Scientifically designed aluminum back plate on which the air cylinder is firmly secured with cam lock is contoured for comfort and provides a sturdy ring for safety rope, plus guard for valve handle. Movement of limbs, shoulders, body and head are thus unhindered.

Scott Air-Pak

QUICK-CONNECT AIR SUPPLY CONSERVER

An exclusive feature of the Scott Air-Pak is the Quick-Connect between the face set hose and the regulator. This permits the user to put on the Air-Pak but leave the hose disconnected. Thus he draws outside air through the open end of the hose without dissipating the supply in the cylinder until he is ready to use it. Designed to Army specifications, the Quick-Connect requires only a split second and the slightest pressure to connect it although an 12 to 18 lb. pressure pull is required to disengage it. Absolutely vapor-tight in air or liquid—adds precious time to the life of each cylinder.

Scott Air-Pak

REGULATOR

Scott has built for the Army, many thousands of regulators practically identical to that furnished with the Air-Pak. Of the demand type, they supply air to the user in exact accordance with his physical needs thereby assuring the utmost in manpower efficiency and air supply economy. Important features of the regulator are:

(1) The air from the cylinder is conducted through orifices which are sufficiently small in diameter so that even if the valve should fail completely, the orifices alone will reduce the pressure to completely protect the user.

(2) Two screens with a ratio of screen opening to orifice opening of 15 to 1 prevent any possibility of foreign particles becoming lodged in the orifice opening and restricting the flow of air. Likewise the screens themselves are much larger in diameter than the orifices thus eliminating the possibility of the screens themselves becoming clogged.

(3) All parts, internal or external are corrosion-proofed to withstand any known corrosive atmosphere to which they might be subjected.

(4) Swivel joint between regulator and high pressure hose provides compactness and comfort.

(5) The Quick-Connect located at the top of the regulator is protected by a spring closure. Thus no foreign particles can enter the mechanism through this channel.

Scott Air-Pak

HIGH PRESSURE GAUGE

The Scott High Pressure Gauge is designed for a maximum pressure of 4000 lbs. thus providing a 100% safety factor for the 2000 lb. normal charging pressure of the heavy duty model Air Pak. In addition, a safety blowout plug is provided in the back gauge case positively preventing blowing or shattering of the glass in the event of gauge failure. Furnished with luminous dial, it is clearly visible under practically all conditions of limited visibility. In extreme visibility conditions however, the regulator can be unsnapped from the harness and held up to the face set lenses for an accurate reading. The danger range in the vicinity of the empty (or zero) mark is so calibrated as to provide the user with an air supply safety factor to be used in leaving the contaminated area. Vapor and liquid-proof, its mechanism is in a crinkle finish metal case with shatter-proof glass.

Scott Air-Pak

SLING-TYPE MODEL

The sling-type Scott Air-Pak has been designed for general emergency or rescue use and for such work as shutting off valves on gas lines, for laboratory use, etc. It can be donned in an instant making the wearer absolutely safe under any breathing hazard conditions, affording complete freedom of movement, absolute comfort and portability plus a reasonable life.

Fire chiefs like its shoulder sling and light-weight portability which permits them to make a quick, easy investigation of fires on their arrival. The sling-type

model with wall case is ideal as a permanent installation at the center of factory and laboratory areas where breathing hazards may exist or where plant fire control stations are set up.

In construction, it uses the same regulator, the same full vision face set, and the same cylinder valve assembly and gauge as the back pack models and includes all special Scott Air-Pak features such as lenses, minimum make ready time, complete protection in any breathing hazard.

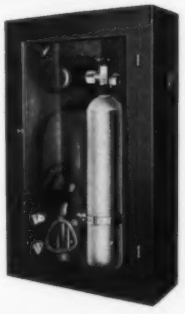
It incorporates a simplified harness consisting of a shoulder sling which permits the wearer to don the equipment instantly and with maximum convenience. Also, it utilizes an extremely low weight cylinder. The sling-type Air-Pak has an average life of 16 minutes under conditions of normal exertion, and 11 minutes under conditions of violent exertion. This available working life is obviously ample for the purposes intended.

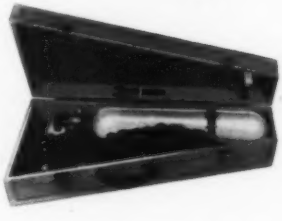
Scott Air-Pak

WATER-RESISTANT FIBRE CASE

Scott Air-Pak, both back pack and sling type model, is furnished complete with a water resistant fibre case providing complete protection for the Air-Pak, from the elements, and from handling and transportation damage. Sturdily constructed, cases are designed to withstand many years normal use. They are light in weight, equipped with high grade hardware, and comfortably balanced for easy carrying.

The Scott Sling Pak is also available in a case designed for wall mounting with transparent glass window so that periodic inspections may be made of the air supply in the cylinder without removing the equipment from its container. Yet the equipment is available for immediate use for any emergency or normal working condition. This container protects the equipment not only from dust and dirt accumulation, but provides protection against corrosive fumes as well.





Upper right: Carrying case for back pack model. Center: Wall case, sling type model. Bottom: Carrying case, sling type model.

Scott Air-Pak

SPECIFICATIONS

Model 6000-A1: Scott Air-Pak, self contained breathing apparatus, Back Pack Model, consisting of one demand regulator assembly including 2½" quick-reading radium dial pressure gauge; Model 6200 full vision face set with diaphragm type exhalation valve, complete with corrugated connecting hose and quick connect fitting; high pressure regulator hose assembly with high pressure swivel joint; back harness assembly with molded back plate and safety rope connection; type 6350-A1 tank, valve, gauge, and safety plug assembly; complete with water-proof fibre carrying case, union wrench, and complete instructions.

Model 6000-A2: Same as above, excepting with 6350-A2 tank, valve, gauge and safety plug assembly.

Model 6000-B1: Scott Air-Pak with Sling Type Harness, consisting of one demand regulator including 2½" quick reading radium dial pressure gauge; type 6350-A3 tank, valve, gauge, and safety plug assembly; sling harness complete with thumb screw clamp; Model 6200 full vision face set with diaphragm type exhalation valve, complete with corrugated connecting hose and quick connect fitting; complete with type 6403 carrying case, including instructions and union wrench.

Model 6000-B2: Same as above excepting with type 6550 mouthpiece in place of 6200 face set.

Note: If wall mounting case is preferred to carrying case, specify "with case type 6404" when ordering.

Write Today

FOR FREE DEMONSTRATION

Scott Aviation Corporation,
Safety Equipment Division,
Lancaster, New York.

Gentlemen:

We desire to take advantage of your offer to demonstrate the SCOTT AIR-PAK *at no obligation to us.* We are interested in your Air-Pak for—

(1) EMERGENCY USE—

.....

(Give brief description)

.....

.....

(2) WORKING EQUIPMENT—

.....

(Give brief description)

.....

.....

Name .....

Title .....

Name of Business .....

Address .....

City .....

State .....

Telephone ..... Ext. .....

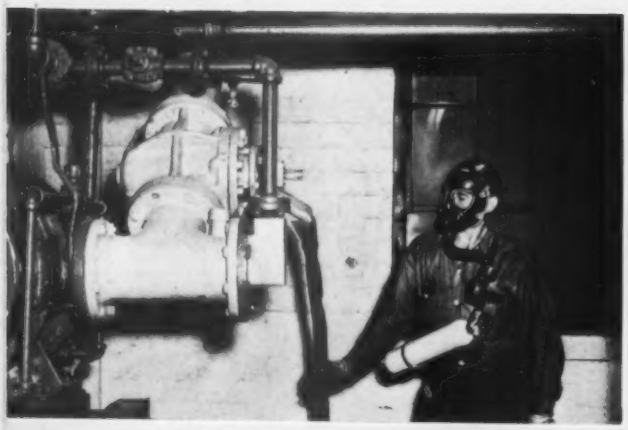
Scott Air-Pak in Service

In laboratories, the sling type Scott Air-Pak is favored for its quick, easy accessibility.

The Scott Air-Pak can be safely used under water. Police and Park departments are interested in this adaptation.

For cleaning tank cars, the Scott Air-Pak permits complete freedom of motion — no air lines to foul.

The sling type Scott Air-Pak is dependable equipment for valve rooms and places where a danger of fumes exists.



The sling type Scott Air-Pak and wall case is ideal emergency equipment for pump rooms.

In the marine field, the Scott Air-Pak is the answer for the cleaning of tankers, barges, holds, etc.

The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

One for the Book

Fourteen-year-old Johnny Dougherty, Jersey City, N. J., won't play with dry ice again in a hurry. He's recovering from deep lacerations which were caused when a milk bottle containing the substance exploded.

According to police, the lad found the dry ice and put it into the empty milk bottle, which he capped by holding his hand over the mouth. The pressure of the evaporating ice exploded the bottle, sending fragments into the boy's neck, chest and other parts of his body. (Thanks J. McV.).

* * *

Curbstone Chiefs Curbed

The next time Frostburg, Md., has a fire the volunteer firemen expect more respect and less kibitzing from the "curbstone chiefs."

The wisecracking spectators and sidewalk superintendents who gathered one August night to watch the harassed firemen extinguish a stubborn automobile blaze learned a lesson when the vamps finished off the fire and turned their hose streams and extinguishers on the crowd.

The trouble began when the firemen fighting the fire were jeered on by wisecracks and personal remarks that flew almost as fast as the sparks. The vols. got up their dander. And they turned their fire-extinguishing equipment on the crowd which, though somewhat dampened down physically, fought back. They heaved rocks. One lone policeman sought to bring order, but like all peacemakers, he got it in the *medulla oblongota*—with a rock.

Meanwhile, the frost is on the pumpkins—and the village bumpkin of Frostburg.

* * *

Orchids to McKeon

Not so long ago Mayor Fiorello LaGuardia, of New York City, appointed David McKeon, a member of the legal staff of the city's fire department, to the magistrate's bench. The sequel, so far as we are concerned, was not long forthcoming.

On August 11, Magistrate McKeon, in Brooklyn Week-end Court, had scant sympathy for Raymond McAleer, 40, of that Borough, when he pleaded guilty of disorderly conduct in sending in a false fire alarm at 4:10 A. M.

Said Magistrate McKeon, "you fellows in search of a thrill seem to think that firemen are expendable." Following a lecture on the numerous accidents that result from false alarms, hizzoner sentenced the defendant to fifteen days in jail without the alternative of a fine.

If the only way some of our cities are going to rid themselves of the false alarm evil—and the pests and parasites who perpetrate the practice, is by appointing firemen to the bench, let's hurry up and do it!

* * *

Fireman Loses Two Wives by Fire

Tragic coincidence has robbed Acting Captain Vito Colonna, of the Philadelphia, Pa., Fire Department of two wives, both by fire.

His second wife died in August in the flaming bedroom of her home directly across the street where her sister, and Colonna's first wife, was burned to death twenty-five years ago.

The Acting Captain found the kitchen of their home enveloped by flames early in the morning, after being aroused by gunshots fired by neighbors who discovered the fire. He had kept an extinguisher handy in his house ever since his first wife was burned to death. He made desperate efforts to get at the extinguisher but flames barred him, and he ran to the nearest street box and sent in an alarm.

When he returned, the fire prevented him from re-entering the house. He shouted to his wife and three grown children to jump from the second floor. The children, including a sailor home on leave, leaped.

Mrs. Colonna appeared at the window, but returned to her bed and pulled the covers over her head, dying from the heat and smoke.

* * *

Grisley and Ghastly

JERSEY CITY, N. J.—A fire in a funeral parlor early one morning partially cremated the bodies of a 32-year-old man and an 85-year-old woman.

Three items, all sent by different contributors, have the same macabre motif. Here they are.

The blaze was in the Seitz and Beddings funeral home where the bodies were reposing prior to funeral services. Two firemen were injured in the blaze. (Thanks W. B. R.)

YOUNGSTOWN, O.—The coroner returned a verdict of suicide in the death of Miss Minnie Clarkson, 58, who cremated herself in the furnace at her home.

Miss Clarkson apparently crawled into the furnace and then ignited the fire. Police and firemen worked several hours cutting away the front of the furnace to extract the body. (Thanks J.J.W.)

NEW YORK, N. Y.—Joseph Milliken, 62, was fatally burned when, according to police, he emptied a two-gallon can of kerosene over his clothing and then touched a match to himself.

Milliken's aunt, aged 81 with whom he lived, unable to aid him, ran screaming to the street. A mail carrier, who lives in the building, smothered the flames but Milliken was dead when an ambulance arrived. (Thanks Dr. W. N.)

* * *

$100,000 Collinsville Fire

Fire swept a downtown brick store and apartment August 5, necessitating the calling of fire apparatus from four nearby communities. They helped Collinsville brothers fight the fire for four hours. Two firemen were overcome; two others injured. Nearly 2,000,000 gallons of water were used.

* * *

Friday the 13th His Day!

Chief Fire Marshal Michael Corrigan, Chicago, Ill., isn't superstitious but Friday the 13th is an especially significant day in his life. He joined the fire department on a Frday the 13th in 1897, and immediately was assigned to Engine Company 13. Because he was the 13th and last man to join the Company he was given badge No. 13. He still maintains quarters at Engine Co. 13 located at Dearborn and Lake, and sleeps there when his duties keep him away from home. His wife's birthday is Dec. 13, and the first daughter was born on Mrs. Corrigan's birthday, Friday the 13th of December. He passed 13th on the list of the fire department's exam. for lieutenants. There's a tragic note, too, connected with the number 13 in Corrigan's life. His second eldest son died on a Friday the 13th in 1923 (From Kup's Column, Chicago Times).

* * *

Firemen Chefs Flop?

Eight E. St. Louis firemen suffered food poisoning after eating a veal stew they had concocted themselves. All members of Eng. Co. 36, the firemen returned to duty after emergency treatment at City Hospital.

* * *

Bunker Hill Brothers "See" a New Job

Bunker Hill, Ill., vamps have responded to many odd calls in their 50 years of service but recently added one for the book. It was a request to fish a pair of lost spectacles from the bottom of a fourteen-foot cistern. A man repairing the covering of a cistern dropped his "specs" in the drink. The vols. came, pumped out nine feet of water, found the "cheaters" and returned them to their owner—with a bill for $5.00—and went back to quarters. That idea of charging for those out-of-the-book services doesn't sound so bad!

* * *

'Gin a Body Find a Body

Not coming through the rye, was Henry Warner, who refers to himself as Speedy, or Captain, but mebbe the rye had something to do with it. Tennyrate, Speedy, age 67, who lives in a shack at 91 Bergen Avenue, Flatbush, N. Y. C., strolled across the street of an afternoon to an abandoned frankfurter stand.

His peaceful intention, in his own words, was to amuse himself for an hour or two by "tickling the ivories." There is an old tinpanny piano in the stand which somehow held together since the miniature Coney Island development there was abandoned some years ago.

A moment later Speedy, living up to his name—or a reasonable facsimile thereof, rushed out, and a few minutes after, fire apparatus began converging on the scene from all directions.

Lieutenant James Donohue, of Ladder 157, dropped off the truck, looked around and spied Speedy Warner. According to his testimony in Brooklyn-Queens Night Court later, the conversation went something life this:

"Where's the fire," he asked.

"There's no fire," said Speedy. "I turned in that alarm."

"Why?"

"Because there's a dead body in that stand, that's why."

"But why did you turn in a fire alarm?"

"Because the police wouldn't pay me any attention. I turned in a fire alarm to get some action."

Uh huh, according to the police there really was a body, identified later as a sufferer from a heart ailment who had

(*Continued on page* 802)

FALSE ALARMS

You've Heard about the "Good Old Days"?

The following rules, vintage of the 1880's, were posted in an Amboy, Illinois store, operated by the founders of what is now called Carson, Pirie, Scott & Co., of Chicago.

1. Store must be open from 6 a. m. to 9 p. m. the year 'round.
2. Store must be swept; counters, shelves and showcases dusted; lamps trimmed and filled and chimneys cleaned; pens made; doors and windows opened; a pail of water and a bucket of coal brought in before breakfast. (If there is time to do so, attend to customers who call.)
3. The store must not be opened on the Sabbath unless necessary and then only for a few minutes.
4. The employee who is in the habit of smoking Spanish cigars, being shaved at the barber's, going to dances and other places of amusement will assuredly give his employer reason to be suspicious of his integrity and honesty.
5. Each employee must pay not less than $5.00 per year to the church, and must attend Sunday school regularly.
6. Men employees are given one evening a week for courting, two if they go to prayer meeting.
7. After 14 hours in the store, the leisure hours should be spent for the most part in reading.

Hot Gospeller

A clergyman on a lecture tour was interviewed by a reporter from the local paper. The clergyman asked him not to publish details of his lecture, as it might spoil the attendance at other halls, where more or less the same talk would be given. Next day the parson was horrified to read in the local paper: "The Rev. —— gave a delightful lecture in the church hall last night. He told several excellent and amusing stories, but unfortunately they cannot be printed."—*The Collecting Head.*

Man Instructor (to new girl): "I'm putting this rivet in the correct position; when I nod my head, hit it real hard with your hammer."

"That's all he remembered until he woke up in a hospital.

"Homer"

A member of the Ladies' Aid Society went to the bank of deposit, and she told the cashier, "Some Aid money."

Unfortunately, the cashier thought she said "egg" money and replied: "Remarkable, isn't it, how well the old hens are doing these days?"

Married Life

The Mayor's wife was downtown buying groceries.

"I want some grapes for my husband," she said. "Do you know if any poison has been sprayed on these?"

"No, ma'am," answered the grocer, "you'll have to get that at the druggist's."

Temperate

Candidates for a job were being interviewed for an appointment. The city manager asked the candidate:

"Are you temperate?"

"No, sir," came the reply. "I am on the permanent staff."

"There's only one thing worse than trying to shave with a razor after your wife has sharpened a pencil with it."

"And what's that?"

"Trying to write with the pencil."

A doctor fell into a well,
And broke his collarbone;
A doctor should attend the sick,
And leave the well alone.

Well, After All!

Father: "Young man, what do you mean by bringing Dorothy home at six in the morning?"

Charlie: "Well, my gosh! I have to be at work by seven."

A professor was teaching his science class about fresh water life. He put his hand into his pocket to take out a frog he was keeping for demonstration. Instead of the frog, he pulled out a ham sandwich. "That's funny," he said, "I could have sworn I ate my lunch."

The mayor was officiating at a council meeting. A very agile member was constantly interrupting when the mayor was on his feet. The mayor interposed, "Let one fool speak at a time." The opposition member at once replied, "Certainly. Go on, then."

Heard at the Draft Board: "Have you any physical defects?"

Draftee: "Yes, sir, no guts."

The telegram read: "Hazel gave birth to a girl this morning. Both doing well." Pasted on the telegraph blank was a sticker. It read: "When you want a boy, call Western Union."

More Than Just for Fires

In addition to operating floodlights and power tools on fires, a Homelite Portable Gasoline-Engine-Driven Generator can be mighty useful in many other emergencies. Some departments use their Homelites with unusual success in drowning accidents. They put their compact, lightweight Homelite right in a boat and are able to have powerful underwater illumination wherever they need it.

The best way to see the performance that you get with Homelite Portable Generators, Pumps and Blowers is to have a demonstration given right on an actual job. If you want a free demonstration without obligation, simply write to us. We'll have our nearest representative get in touch with you.

Homelite Corporation

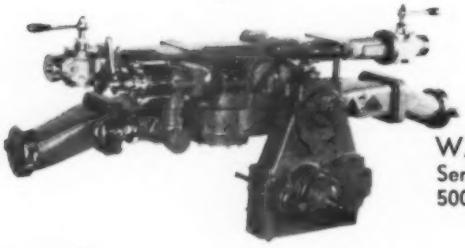
Portable PUMPS • GENERATORS • BLOWERS

PORT CHESTER, NEW YORK

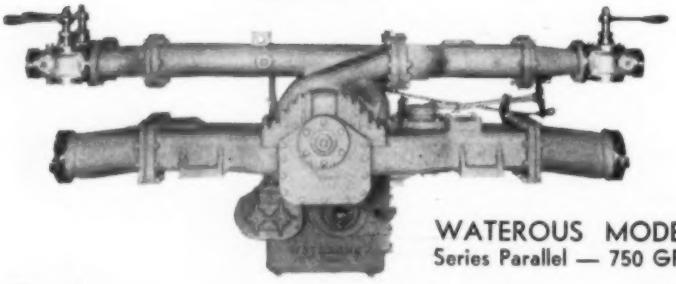
It will help you if you will mention FIRE ENGINEERING *when writing advertisers*

Any Style or Size of FIRE PUMP!

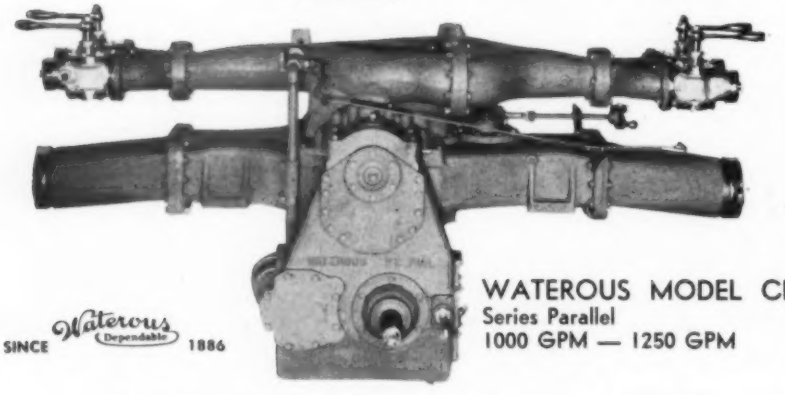
WATEROUS MODEL CA-1
Single Stage — 500 GPM



WATEROUS MODEL CA-3
Series Parallel
500 GPM — 600 GPM



WATEROUS MODEL CD-1
Series Parallel — 750 GPM



WATEROUS MODEL CD
Series Parallel
1000 GPM — 1250 GPM

SINCE Waterous Dependable 1886

Specify a WATEROUS Pump on your next pumper, for complete satisfaction and dependability. Literature upon request.

WATEROUS COMPANY • ST. PAUL, MINNESOTA

Also Manufacturers of WATEROUS Fire Hydrants

WATEROUS FIRE PUMPS

With Our Readers

(*Continued from Page 762*)

ued to a later date, but the man was found guilty and fined the penalty (applicable to this type of disorder) of $20.00.

At a meeting this past week, Mayor Anderson has asked the City Solicitor to draw up proposals for legislation by the State Legislators in Boston to increase the penalties for offenses of this type.

Another activity of the celebrants was the turning in of over twenty-three false fire alarms in about two hours. At one box, two false alarms brought two different companies in response.

Another news item of opposite conditions may be cited in an item from North Adams, Mass., about their celebration of the surrender. For a period of forty-eight hours after the presidential announcement, not a single false alarm of fire was received at headquarters.

Yours very sincerely,
W. A. MONTGOMERY
Springfield, Mass.

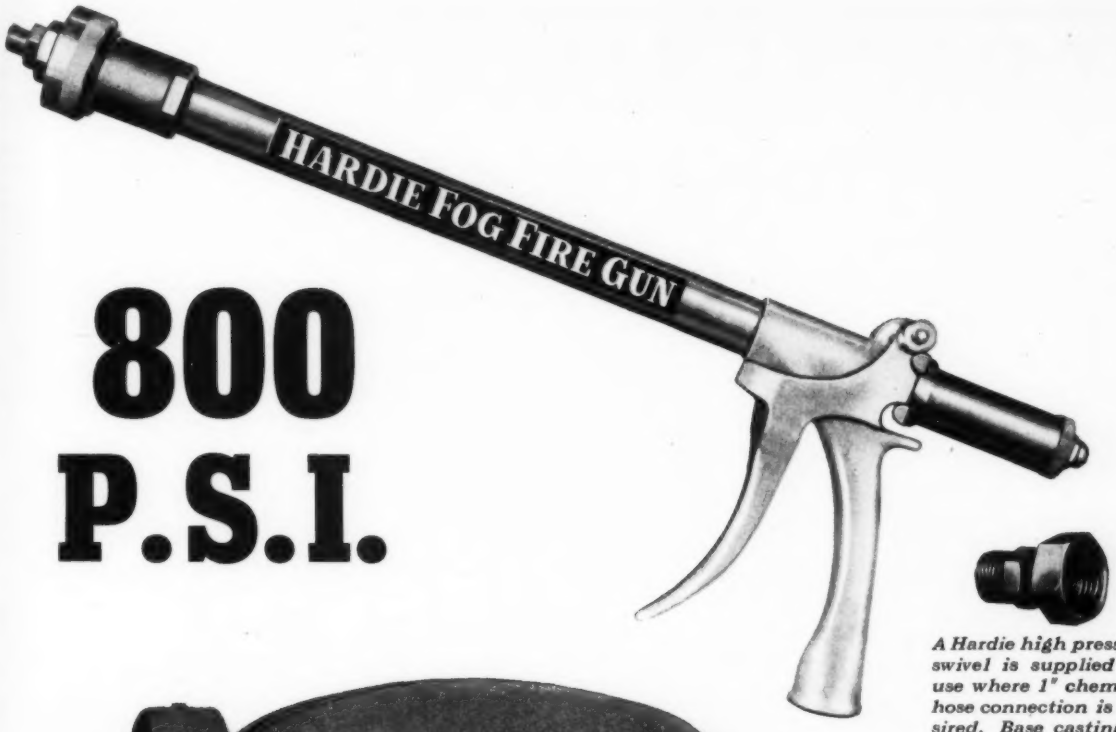
Fog and Spray

To the Editor:

In considering the subject of fog as used in fire fighting, a clarification of the term itself will tend to place us all upon a mutual basis for understanding and eliminate the loose construction given the term by common usage—or better still—misusage. Fog, by concept, is not a spray, and almost any dictionary definition of the term will bear me out. Both Funk & Wagnalls and Webster give the definition of fog and spray substantially as follows: "briefly; a fine mist or vapor suspended in the atmosphere. Spray: dispersion of fine particles of water or other liquid; to scatter or let fall, a spray." Obviously the two are not the same; they are not interchangeable; they are not synonymous. Yet the misuse of the two is common practice in the service. Low pressure creates a spray, which you scatter or let fall—a spray. High pressure creates a fine mist which tends to remain suspended in the atmosphere. To more graphically illustrate: Discharge vertically from a low-pressure fog nozzle. Upon shutting off the nozzle the discharge instantly falls to the ground. Now discharge vertically from a high-pressure gun, and upon shutting it off the discharge tends to float or "remain suspended in the atmosphere." Therein lies the difference. That is the 'kind' of fog to which I refer when using the term 'fog.'

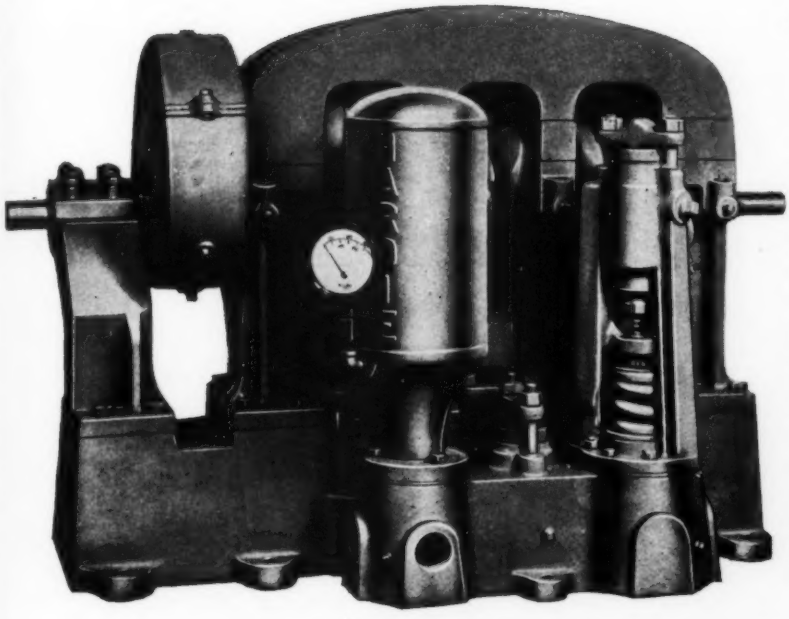
During the month of June, 1945, the City of Stevens Point placed in service a 750-G.P.M. triple combination pumper in which was incorporated one of the new high pressure pumps in addition to the conventional fire pump. Our experience with this system has, of course, been limited because of the short period during which it has been in service. For all practical purposes we have as yet accumulated no factual data. But due to the publicity given it by both the manufacturers and the armed forces of the government, a brief report on this system and its characteristics, gained by actual experience therewith, may prove interesting.

Both high-pressure and low-pressure fire-fighting methods have the same end in view. The theory of fire extinguishment back of both is identical with the



800 P.S.I.

A Hardie high pressure swivel is supplied for use where 1" chemical hose connection is desired. Base casting of gun is fitted with female ¾" thread.



● This Hardie Imperial LCXA pump delivers 60 gallons per minute with 800 P.S.I. at 130 R.P.M. The Hardie Imperial XCXX pump delivers 35 gallons per minute with 800 P.S.I. at 118 R.P.M. These great Hardie pumps and the perfected Hardie Fog Fire Gun assure the most efficient and economical application of fog fire control. Hardie pumps and guns are available in the complete trucks and rebuilt units supplied by many leading fire control equipment manufacturers. Specify Hardie pumps when you buy new or modernize old trucks. Specification data on request.

THE HARDIE MFG. COMPANY

Hudson, Mich. Los Angeles, Calif. Portland, Oregon

Canadian Distributor C. W. LEWIS, Grimsby, Ontario

★H★A★R★D★I★E

High Pressure **PUMPS AND FOG GUNS**

for Fog Fire Fighters

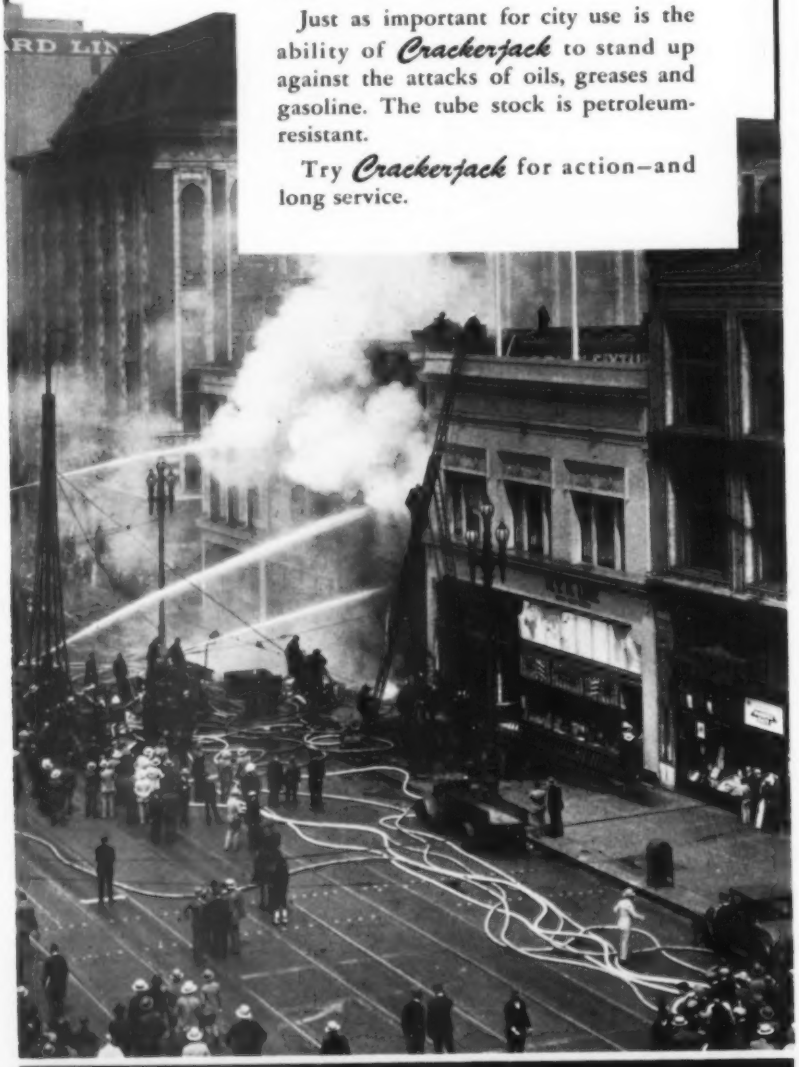
CRACKERJACK for action

Crackerjack Fire Hose is easier handling so lines are laid and in use in the shortest possible time.

The tube in *Crackerjack* is pliable and adheres well to the inner jacket. The outer jacket is so applied that balance is retained. As a result, *Crackerjack* behaves well in action.

Just as important for city use is the ability of *Crackerjack* to stand up against the attacks of oils, greases and gasoline. The tube stock is petroleum-resistant.

Try *Crackerjack* for action—and long service.



The AMERICAN RUBBER Mfg. Co.
Park Avenue and Watts Street • Oakland, Calif.

addition of a smothering action in the case of high-pressure fog. The mean is different, however, and to a considerable extent. A radically different type of engineering and design are involved in the construction of the high-pressure pump. The piston type of positive displacement pump is being utilized, and very low pump R. P. M. produces the desired pressure.

There are factors to be taken into consideration in the operation of a fire department, not the least of which is the matter of available manpower. One man can and does handle a high-pressure gun, and after very little training he does it with ease and confidence. He has at his disposal a highly maneuverable line and a light high-pressure gun. This method of fire fighting calls for close work. Protection is rendered by the nature of the stream.

Another essential is speed in operation. With this method we have, we believe, the ultimate in fast action. We have, where the fire was accessible, been able to bring out a line charged with a full 800 pounds of pressure within 12 seconds after the truck arrived at the scene of fire. The best we have ever been able to do with our conventional methods is 65 seconds, which included hooking the engine to a hydrant and getting in our leader line charged with 150 pounds.

Another factor is the amount of water required for a given operation. I can see no rhyme nor reason in applying many hundreds of gallons of water when 50 or 60 gallons of water will do the job, and it may very well do the job if our appraisals are properly and correctly made.

High-pressure fog is adaptable to all types of fire—oil fires, rubbish fires, grass fires, electrical fires, dwelling fires, or what have you. And it is most effective when used in a confined area like a basement or an attic. In a large number of our runs we find the fire in just that confined stage of development. Only in the event of delayed alarms are they apt to be found in any advanced stage. If and when that should occur, we still have our large capacity pump wherever a drowning is required.

The high pressure used in this method is not necessary for either the creation of fog (as the term is misused in the service) or the distance to which it can be projected. But it is necessary to achieve the degree of atomization accomplished by this method, and that degree of atomization is the chief factor in the increase in the heat absorption capacity of the water used. Since greater atomization occurs, then likewise this high pressure is required to achieve the maximum distance or range.

Personally, we have a great deal of confidence in this system. We grant that it is not a cure-all nor the answer to a fireman's prayer, but all progress ever made in any field has been made by research and pioneering. We are convinced that great strides must be made in the field of fire fighting if we are to keep pace with the technological developments and progress in other industries.

Respectfully submitted.
C. E. MASLOWSKI, Chief
Stevens Point, Wis.

Virginia Chiefs to Meet

The State Fire Chiefs Association of Virginia will hold their annual meeting at the John Marshal Hotel, Richmond, Va., on October 28 to 30.

FOR MANY CENTURIES the legend of the Salamander was accepted as truth. The ancients really believed that this newt or lizard actually dwelt in the heart of the flames—could endure fire. This was just another of the many things people have believed . . . which ain't so.

MEARLFOAM-5, on the other hand, does live and thrive in fire. This war-born, blended, multi-protein, mechanical (air) foam strangles the hottest gasoline or oil fire and remains a live, efficient foam blanket long after the fire itself is dead.

MEARLFOAM-5 puts fire out and keeps it out. It quickly builds up a six- or eight-inch welded air-foam mat which seals out the oxygen on which fire feeds. It adheres to solid surfaces and will pile up an inch or two of fire-smothering dense foam on even perpendicular surfaces. And—any break or rupture in a blanket of MEARLFOAM-5 heals automatically because full mobility and fire-resistance are retained even after aging.

The many unique and dependable properties of MEARLFOAM-5 are the sole reasons the U. S. Navy uses it extensively for preparedness . . . and for the quick extinguishment of raging gasoline and oil fires on shipboard and at shore bases. MEARLFOAM-5 is the veteran of many successful engagements, and one day will demonstrate to all—the super effectiveness of mechanical (air) foam as the most successful, modern method for combatting gasoline and oil fires. MEARLFOAM-5, after putting fire out—*keeps it out*...totally eliminating the flash-back hazard which in the past has taken such a terrible toll of lives and property.

MEARLFOAM-5 is a good-mixer—with any type of water. It works at maximum efficiency in any climate or atmospheric condition. So that—when split-seconds count—you can rely on MEARLFOAM-5 to put fire out fast—to keep fire out *permanently!*

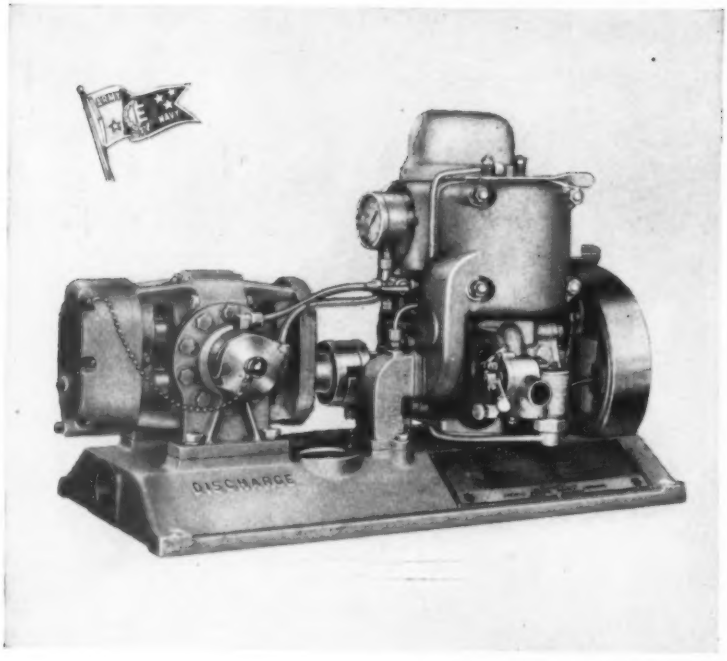
A one-page condensed data sheet detailing the unique properties of this war-born fire-fighting foam is now available on request. Please ask for it.

Completely safe and non-corrosive—may be used with standard Mechanical Foam-Forming Equipment

FOAM ON FIRE OUT... Stays OUT!

THE MEARL CORPORATION
153 Waverly Place, New York 14, N.Y.

TYPE "Y"
Portable Pumper



While the major part of our manufacturing effort still is confined to production for the Navy, we once again are able to produce a limited quantity of our highly specialized fire-fighting Type "Y" Portable Pumpers for the forestry service, industrial plants and commercial shipping.

For weight and size, Pacific Marine Type "Y" is the most powerful portable pumper yet built. Base, 24 x 12 inches; height, 13 inches; net weight complete, ready to operate, 70 pounds.

CAPACITY

Pressure	100	125	150	175	200	225
Gallons per Minute	63	59	53	46	40	20

Manufactured by the

FIRE-FIGHTING EQUIPMENT DIVISION *of the*

PACIFIC MARINE SUPPLY COMPANY

SEATTLE, Washington

PERSONS IN THE NEWS

Chief Albert Herring Retires

Effective September 17, 1945, Fire Chief Albert Herring resigned from active service as Chief of the Murphysboro Fire Department. The retirement is attributed to ill health, after 45 years as head of the city's fire fighting forces.

Chief "Al" Herring

"Al" as an appreciative fire service knows him, has had a colorful career as a fireman and has been prominent in advancing the fire service of the nation.

Chief Herring has been an active and untiring member of the International Association of Fire Chiefs almost from the start of his official career. As a member of various committees in the past he established records for results that have hardly been matched since. Those who attended the Association Convention in Portland in 1927 will remember the amazement of the members at the exhibits of fire apparatus and equipment which overflowed the armory, and two canvas annexes.

An outstanding contribution to the fire service was his assistance in organizing the Egyptian Fire Fighters Association, one of the country's earliest successful mutual aid organizations.

In his letter of resignation, Chief Herring stressed the fact that his retirement did not mean withdrawal from all local civic activities. He will retain his office as president of the Riverside Park Board.

Characteristic of "Al" is his offer to the City to leave to the service of the Fire Department his personal appliances and equipment, most of them given him by his admirers.

Ligon New Fort Worth Fire Chief

Claude L. Ligon has been appointed Chief of the Fort Worth Fire Department, of which he has been a member for thirty-nine years. Only one other man in the department, Battalion Chief J. L. Whittenburg, has a longer record of continuous service.

For only three months less than twenty years Ligon was fire marshal. Chief Ligon succeeds Chief C. C. Killian.

WaterFOG AIDS FIREMEN IN "Spectacular Rescue"

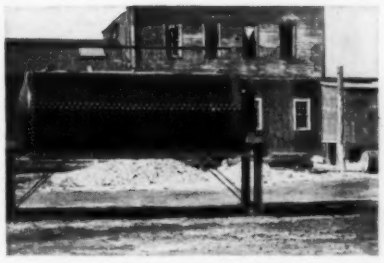
There's an airplane inside that inferno—a dummy plane drenched in gasoline and then set on fire at the New Haven Fire Department's new training grounds.

Rockwood WaterFOG, delivered from two extension applicators, envelops a fireman who enters the roaring flames to save a dummy pilot, then rapidly cools and confines the blaze.

OTHER TESTS SHOW HOW QUICKLY

WaterFOG

SMOTHERS FLAMMABLE LIQUID FIRES



Tank and trench are sprayed with gasoline under pressure.

After gasoline has been set afire, WaterFOG extinguished the blaze.

Speedier extinguishment of flammable liquid fires and an approximate 50% reduction in water damage are predicted by Chief Paul Heinz of the New Haven (Conn.) Fire Department, now that he has equipped his department with Rockwood WaterFOG nozzles and extension applicators.

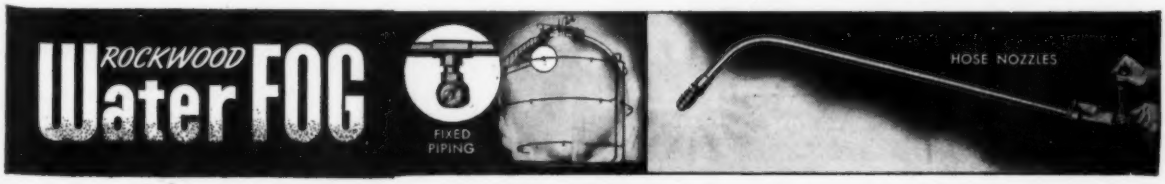
WaterFOG nozzles make water effective against flammable liquid fires by transforming it into myriads of tiny particles—far smaller than spray—with tremendous heat-absorptive power. There's no splashing—a cloak of cooling, smothering fog falls gently over the combustion area, quickly controlling and confining the fire.

Industrial plants, too, protect lives and property with WaterFOG. Rockwood installations of fixed piping and WaterFOG heads are used by hundreds of refineries, chemical plants, utilities, etc. They are approved by Underwriters' Laboratories and Associated Factory Mutuals. Write for Bulletin 123. *Fire Officials and Executives!* Colored movie (16 mm.), showing tests of Rockwood WaterFOG, are available to city officials and business executives.

ROCKWOOD SPRINKLER CO., 54 Harlow St., Worcester 5, Mass.

Specialists in Fire Protection Engineering Equipment and Installation since 1907

Water Engineered by Rockwood Cools, Confines, Smothers Oil Fires



"Bill" Littlehales Oldest Active Chief?

"Bill" Littlehales, Dickinson, N. D., is receiving publicity on his long service to his community. He was born on September 3, 1859, at Oquawka, Ill., moved from there to Pennsylvania, learned blacksmithing, then machine and steam engineering, went to St. Louis where he became a licensed steam engineer.

Most interesting to us, however, is the fact that it is claimed Bill has belonged to some fire department continuously for 67 years—incidentally, almost exactly the age of this publication. It is claimed for him that he is the oldest active fire chief in the United States. He spent seven years in Mandan and 44 in Dickinson, the last ten as chief.

Just to top off the record, Bill has also been water works superintendent at Dickinson for thirty-five years.

Wife of Chief Davis Dies

Mrs. Henrietta Davis, wife of Ross B. Davis, former chief engineer of the Fire Bureau of Philadelphia and past-president of the International Association of Fire Chiefs died August 29 at her summer home in Wynnewood, Penna. Mrs. Davis suffered a stroke last February from which she never fully recovered. She was a past matron of the Order of the Eastern Star.

Ross B. Davis, her husband, retired from active duty in March 1941 after many years with the City Fire Bureau. During the greater part of the war, he served in charge of fire prevention in the government's Navy Building, Washington, D. C.

Besides her husband, Mrs. Davis is survived by two daughters, Mrs. William J. Erickson, of Narberth, and Mrs. Vlademar Nielsen, of San Francisco and a son, Ross B., Jr. of Lansdale, Penna.

Chief Mulligan Is Named to State Fire Board

Fire Chief Terence Mulligan of Sacramento, Cal., has been asked by Governor Earl Warren to serve on the newly created state fire advisory board which will be composed of eleven members.

Chief Terence Mulligan

During the last three years, while Mulligan has served as head of the fire department, Sacramento has placed highest in the state in fire prevention activities.

Chief Mulligan became chief of the department in the Fall of 1941. He has been a member of the department since 1912, serving first as a callman. In 1915 he was promoted to captain and in 1920 he became an engineer. A year later he was named acting assistant chief.

He was made regular assistant chief in 1925 and first assistant in 1937.

Appointments and Promotions

Formation of a proposed county fire department for Jefferson County, Ky. (Louisville), has progressed to the point where the Jefferson County Fiscal Court has appointed Clyde Thompson, Louisville, as county fire chief.

Thomas Woodring, Chief of the Nanty-Glo, Pa., Fire Department, was elected president of the Cambria County and Vicinity Volunteer Firemen's Assn.

Marshal Joseph S. Devine, Jr., is the new superintendent of the Cincinnati Fire Prevention Bureau, following the retirement from the fire department of

BODY-GUARD BUNKER SUITS

Serving the Nation's Firemen for 25 years

Are Available Again!

Now that the war has terminated we are again in full peacetime production, and stand ready to make immediate deliveries to our old friends (and new ones, too), in the fire fighting field.

Body Guard Bunker Suits are the same unbeatable quality that thousands of firemen have been wearing daily for the past 25 years.

Any Fireman Can Have a Catalog by Writing

BODY-GUARD MANUFACTURING CO.
ST. JOSEPH, MISSOURI

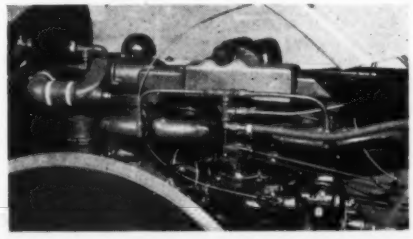
VITAL FACTS FOR FIREFIGHTERS...

on Powering and Re-Powering!

If you . . . want the most for your money in POWER and DEPENDABILITY, Hall-Scott Series "400" engines can handle 2000 gallon pumpers in steady 24-48 shifts when necessary – can really move up those hills when you "step on it" – can pick up *fast* after traffic jams!

. . . want longer engine life. In a Hall-Scott you get less wear because there are *only* 1300 R.P.M.s when maximum torque is developed, 2200 R.P.M.s when top power is required.

. . . want FULL time operation. With the Hall-Scott unit assembly design (short of complete overhaul) you simply "unbutton" the part to be serviced, install a spare, and the apparatus is on instant call while the work speeds on.



Compact and weighing only 2150 lbs. Hall-Scotts are accommodated easily by most present apparatus.

HALL-SCOTT MOTOR CAR COMPANY

Factory and General Offices: 2850 SEVENTH STREET, BERKELEY 2, CALIF.
Factory Branches: SEATTLE, WASH.; LOS ANGELES, CALIF.; NEW YORK CITY
Division of ACF-BRILL MOTORS COMPANY

Oakland Fire Department's Pirsch equipment – three 1250 gallon pumpers and one 85' aerial – all powered by Hall-Scott Model 470 engines.

Carl Rogers, acting superintendent. Capt. Robert P. Sommer is assistant superintendent. The Bureau is under the direction of Fire Chief Barney Houston.

James J. Kloth was named deputy state fire marshal in charge of the Hamilton-Butler County area of Ohio, early in the year.

In answer to the inquiry from C. Van R.: Herbert Q. Hopper, chief of the Franklin Lakes Fire Department was re-elected chief of the North Jersey Fire Officers Assn. Lieut. George Zink of Fair Lawn is vice-president.

The new chief of the Avalon, Cal., Fire Department is M. Bowne. He replaces A. McCarter, who resigned.

Charles Scott was elected chief of the Solon, Ia., Fire Department.

George Lockhart has been appointed Chief of the Minneapolis, Minn., Fire Department. He succeeds Earl Traeger who recently retired.

Chief Heinzman Retires

After twenty-three years of service with the Los Angeles County Fire Department, Assistant Chief A. Heinzman has retired. He started as a battalion chief, when the department was first organized and has been assistant chief for eighteen years.

Chief Heinzman's post will temporarily be filled by W. B. Klinger who has been a battalion chief for the past fourteen years. He joined the department twenty-one years ago. It is said a civil service examination for permanent assistant chief will be held.

Bob Byrus to Iowa

Robert C. Byrus, a familiar figure in the Office of Chief Engineers in Washington has left the War Department to be fire service instructor for the State of Iowa, with headquarters at Iowa State College, Ames, Ia.

In his new position Bob will organize the state fire school, a project that has long been advanced by progressive Iowans in and related to the fire service.

Before becoming connected with the War Department, he was chief of the Lake Worth, Fla., Fire Department.

N. J. State Firefighters Meet

At the New Jersey State Firefighters Association meeting, held in Asbury Park, N. J., September 12th, the following officers were elected to office for the year 1946: President, Charles Patterson; Recording Secretary, Fred Scheurman; Treasurer, George Corburn; International Representative, Andrew Coughlin; Attorney, Judge Holleran (retired). Each County of the State has a vice-president.

Charles Patterson Andrew Coughlin

During the business sessions, the reports of the state officers for the year 1945 were received and the officers complimented for their fine work during the year.

The program of the State Association of Firefighters for the year 1946 centers around securing state legislation for an eight-hour working day for the members of the fire departments throughout the State of New Jersey. An educational program was adopted to assist men who will seek advanced training in connection with competitive civil service jobs as firemen, especially servicemen whose ambition is to join the ranks of fire-fighters.

Andrew Coughlin reported six new locals having become affiliated with the International Firefighters in the State of New Jersey during the past year.

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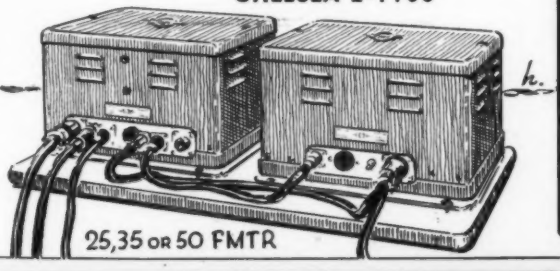

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Canadian News

According to the publication "Municipal Fire Departments in Ontario, there are 394 organized municipal fire departments in that province manned by a total of 7,986 firemen, of whom 2,072 are full-time fighters and 5,894 are volunteer fire fighters. The fire apparatus with which these men are equipped includes 402 fire pumpers, 22 aerial trucks, 131 ladder trucks, 258 hose trucks and 94 miscellaneous pieces of fire apparatus. These 394 municipal fire departments are operated at an annual cost of $5,475,719 to protect 2,825,471 citizens of these communities and to protect buildings having an assessed value of $1,867,676,745.

The publication containing these and other data was issued by the Fire Marshal's Office of Ontario, W. J. Scott, K. C., Fire Marshal.

The joint annual convention of the Temiskaming and District of Cochrane Firemen's Associations, was held Sept. 17 and 18 at Timmins, Ontario. A large attendance was reported.

The annual meeting of the Firemen's Association of Ontario was held Aug. 4 to 6 at Merritton. Approximately 60 fire brigades were represented, with an attendance reported of over 250. L. C. Anderson, Fire Prevention Engineer of the Fire Marshal's office, showed films relating to the fire service.

Announcement has been made of the postponement of the Provincial Firemen's Training School, originally scheduled for October, to April of next year. It is planned to divide the school into two divisions at that time, first a 4-day training school restricted to firemen and junior officers, and second, a 2-day school for chiefs, deputies and instructors dealing with administration problems and instructional methods.

Volunteers Meet

Officers of the Jefferson County Volunteer Firemen's Association were elected at the fifth annual convention held Sept. 20 and 21 in Brownville, N. Y. The organization includes 25 fire department.

Chief L. Max Doane, Dexter, was named president to succeed Nelson Longton, Clayton. Others named are: Harold Houghton, Alexandria Bay, first vice-president; Chief Roy Graves, Antwerp, second vice-president; George Wilson, Clayton, treasurer, and Jack Farrell, Dexter, secretary. The 1946 convention will be held in Antwerp.

SANFORD D. DEWEY

Southeastern N. Y. Group Meets

The Southeastern Association of Volunteer Firemen of New York State held its 37th Annual Convention at Silver Creek, New York, August 2nd and 3rd.

The Association includes volunteer firemen of Erie, Allegany, Cattaraugus and Chautauqua Counties of the State. Headquarters were at the Silver Creek Fire Department, Ivan I. Velzy Chief Engineer, and Chairman of the Program Committee of the conference. The president of the Association is Dr. Frank D. Tyler of Fluvanna, N. Y.

A feature of the conference was the demonstrations conducted by the several departments. These were in charge of Battalion Chief Harold R. Becker of the Buffalo Fire Department. The details of the evolutions and operations were explained over the public address system, to a large audience of firemen and citizens.

The two day demonstrations covered rescue operations by the Silver Creek Fire Department, Chief Henry Summerton; the Helmuth Fire Department, Jack Smith; and the Gowanda Fire Department, Chief Harry Smith. The Snyder Hose Company, Chief Francis Ludwig, demonstrated turret pipe operations; the Windon Fire Department, Chief Jeff Wanamacher, showed the right and wrong way to handle certain fire-fighting equipment. One unit of this department was manned by boys of 15 and 16 years. The Lancaster Fire Department, Chief Joseph Meyer, assisted by the Westfield Fire Department, Chief Ray Harmon, demonstrated aerial ladder work and the Evans Center Fire Department, Chief Henry Tanner, teamed with the Silver Creek Department, Chief Henry Summerton, in a two part demonstration of high pressure streams and the use of distributors, spray and water fog. The Lakewood Fire Department, Chief Wulmer Hodges, with the Celoron Fire Department, Chief Edward Buhlman and the Fluvanna Fire Department, Chief Charles Sondell, demonstrated relay operations, using catch basins.

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Shown here are only a few items in the *complete* line of Buckeye Fire Fighting Accessories. All are smooth-functioning, *quality* products that are in thoroughly satisfactory use in large and small departments all over the country. Write NOW for catalog of the complete line.

Fig. 900
2½" Shut-off Nozzle

Fig. 935
Junior Chiefs' Car Whistle

Fig. 925
Siamese Gates

Fig. 930
Junior Type Roto-Ray

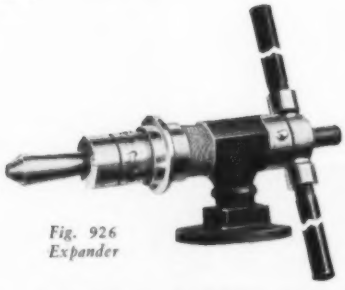

Fig. 926
Expander

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A Welcome Sight On Any Airfield

Called "*Big Boy*" at one field, "*Snorting Bull*" at another, and "*Gargantua*" at a third, hundreds of Cardox Airport Fire Trucks are serving at Army and Navy bases in the U. S. and abroad. Pilots have said that the one thing they most want to see when they come in for a landing is "the Cardox on the line."

Self-contained—highly mobile . . . geared for easy maneuverability . . . these highly specialized fire-fighters pack the terrific wallop needed to lick crash fires *fast* . . . permitting rescue of personnel in *seconds* after they reach the scene of a crash landing. *Tons* of liquid CO_2 can be released onto the fire zone in approximately one minute, if necessary.

Backing up this big supply of zero-cold, fast-acting carbon dioxide are hundreds of gallons of foam solution . . . which blankets exposed gasoline and hot metal surfaces during and after extinguishment to prevent reignition.

Airport authorities facing the problem of adequate fire protection for present or post-war operation should get full details on design, operation and performance record. Write today for Bulletin 19105.

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The Snyder Fire Department, Chief Francis Ludwig, assisted by the Silver Creek organization Chief Wilfred Velzy, covered the subject of salvage while Captain Roy B. Farrell of the Buffalo Fire Department, assisted by the Angola Fire Department, demonstrated the use of a smoke ejector. The Lakeshore Fire Department, Chief N. F. Bremer, demonstrated gas and smoke masks and first aid work. Mr. Purdy of the Pyrene Manufacturing Company and the Collins Fire Department exhibited "Phomare" nozzles. The final demonstration was carried out by the Asheville Fire Department and Ladies Auxiliary, Chief Warren Wilcox in charge. In this interesting demonstration an old fashioned hand pumper was used by the male firemen, while the Ladies Auxiliary of the Asheville Department operated that Department's modern fire truck.

Flood-lighting of the area was handled by the Dunkirk, Lancaster and Snyder Fire Departments.

The Round Table

(*Continued from page 766*)

knows how to look out for the safety of the men under his command while fighting a dangerous fire. He also would not be inclined to go to pieces when he had a hard fire to contend with. A younger man and especially a citizen without fire fighting experience might go to pieces at the sight of a large fire. This acting chief might have to take over and save the day.

The experience of an older man is always sought and he many times can give helpful advice. Once our Chief, F. J. Roddy, now deceased, extinguished a flaming gas well by converging three lines from a 750-gallon pumper above the flame until they met over the pipe and extinguished the flame. The men of the gas field laughed at him when he said he could put the fire out. Afterwards they asked the chief many questions.

Thomas G. Fisher, Chief, Norwood, Ohio: I believe the Board of Fire Commissioners are acting unwisely in this case as experience and ability outweigh all other considerations. In my opinion, a civil service examination should be held for the position, permitting the assistant chiefs, if there are more than one, to compete for the position. If there is only one assistant chief, then permit the officers of the next lower rank to take the examination with the assistant chief in order to make it a competitive examination.

Z. F. Drouin, Chief, Lewiston, Me.: From past experiences, it has been proved by city officials that the making of a fireman takes in the neighborhood of three years. It stands to reason that the supervisor of fire chief should have sufficient knowledge in the handling of men and of fire fighting, which takes years of experience. I believe the fire commissioners are acting unwisely in fostering this program.

Experience and ability certainly outweigh the age limitation. If a man is physically fit and has the necessary experience, he is definitely the better man for the work. This is the age of specialists; the "jack-of-all-trades" went out a few years ago, and I believe won't return.

The man with experience and who is physically able, no matter what his age might be, is much better than a tyro. In the case above, the man with experience should be appointed chief, until a suitable candidate with experience can be made to replace him.

L. B. Barnum, Chief, Phoenix, Ariz.: Although the man in question is over age, he has had a great deal of hard-earned practical experience and should be allowed to compete with the applicants for the chief's position. It seems to me that if he has been a good enough chief officer to become acting chief in the absence of the chief, with the practical experience he naturally has he should make a good chief.

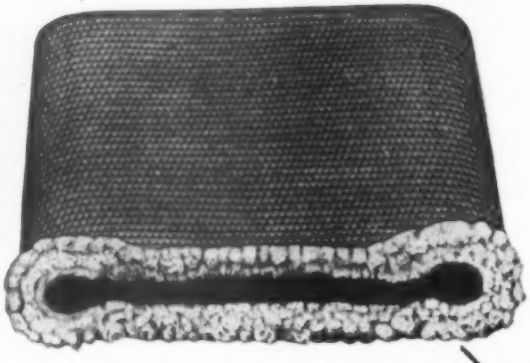
As far as going outside of the department to select a chief is concerned, I feel this should not be done because it would naturally lower the morale of the department.

Harry Hutton, Chief, Salem, Ore.: The man in question is entitled to his promotion if service, experience and ability stand for anything.

John E. Bull, Chief, Bellingham, Wash.: I believe a younger man should be selected to fill the job of chief and the assistant chief retired in the near future.

L. F. McDonald, Chief, Jackson, Miss.: I believe the acting chief should be appointed chief of the department. Should age decrease his efficiency, then he should be retired on top salary for retired members.

See how FLAT it Folds

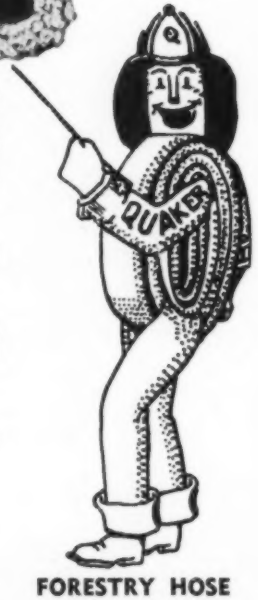


Quaker's Modern Municipal Fire Hose with Easy-Fold Construction naturally folds flat, allowing easy packing of one-third more additional footage in the truck bed.

This hose is ready for quick use and is dependable at all times.

Good, high grade Fire Hose is a purchase of safety, economy and stability.

Before you place your next order, get in touch with Quaker.



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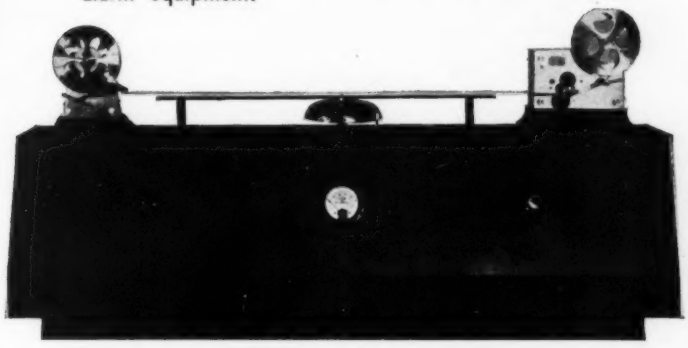
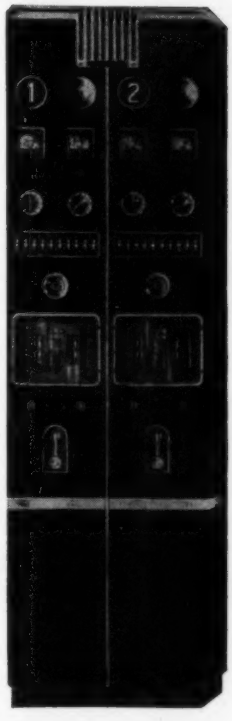
. . . manufactured by The Southern Switch & Signal Company . . . has the "know how" of experts with many years of experience — incorporates the newest designs and sound engineering in this modern fire alarm equipment.



A. B. C. FIRE STATION RECEIVING SET

A. B. C. FIRE ALARM SWITCHBOARD



was developed to meet a demand for a fire alarm telegraph switchboard that would incorporate all of the battery charging, line controlling, circuit protection, testing and automatic repeating means in one unit. Our engineers realized that cities are confronted with the ever expansion and changing of their systems, and the sectional design of this switchboard fills a place never before approached in the fire alarm telegraph field, i.e., a community can start with two circuits and add additional circuits as their town or city grows, without discarding any of their equipment. There are no radical changes or complicated designs in this switchboard, and every part and circuit arrangement has been proven for years in the field. The entire unit is designed and manufactured in strict accordance with the rules and regulations of the National Board of Fire Underwriters.

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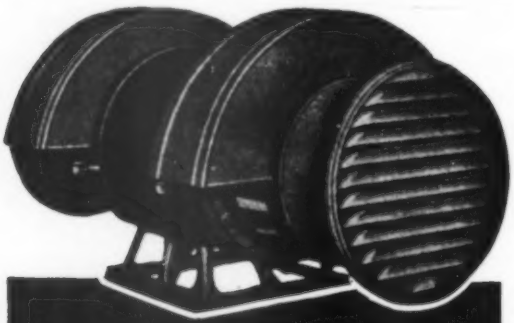

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You Can Depend On It ALWAYS

An absolutely dependable, tried and proven siren for communities of all sizes. Loud, clear, simple to instal and no maintenance to bother with. Embodying the "know how" of the oldest and largest makers of siren signals in the fire field. Write for descriptive literature and list of towns using the model "M".

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manufacturers of a complete line of apparatus sirens.
Write for literature.

STERLING SIREN FIRE ALARM CO., Inc.
55 Allen Street Rochester, New York

Manufacturers' Announcements

(*Continued from page 764*)

Scott Air-Pak Now Available

For over a year, fire fighters throughout the country have been told through advertisements about a piece of fire fighting apparatus which would make its appearance in postwar days—as soon as the pressure of war production permitted manufacture for peacetime needs. It has been known that the equipment would be self-contained breathing apparatus but its features and details of its construction have been withheld until recently. Now, the Scott Aviation Corporation, of Lancaster, New York, has announced the introduction of a revolutionary type of breathing apparatus with a wide variety of not only fire fighting but emergency and work applications as well.

Scott Air-Pak, the New Self-Contained Breathing Apparatus Utilizing Compressed Air, Being Used by Firemen.

Called the Scott Air-Pak, it had its inception in the battleskies. Throughout the war, Scott has manufactured demand-type regulators for use with portable oxygen equipment in high altitude flying. This equipment, popularly known as the "walk-around bottle" permitted flying personnel to leave their stations in military aircraft and take up other duties in different parts of the airplane. During high altitude missions this would not have been possible since, without the "walk-around bottle," men were compelled to stay at their stations and utilize the permanent oxygen installation available to them.

Over two years ago, Scott investigated the field which existed in fire fighting and general industrial use for a type of breathing apparatus utilizing air, which could be stored under pressure in a compressed air cylinder, with the result that air is carried by the Scott Air-Pak to the hazard and not drawn and refined at the scene.

Also the Scott Air-Pak is ready for instant use. All that is necessary is to don the apparatus and enter the area of hazard. The Scott Air-Pak, according to company officials, offers other advantages such as its Quick-Connect, which permits the wearer to breathe through

the open end of the low pressure face mask hose until entering the danger zone, thus conserving the air supply for actual use under working conditions.

The Scott Air-Pak utilizes the well-known Willson mask, since this type face set has been found to give the best possible service with the apparatus. The Willson mask includes among its features shatter-proof lenses cushioned in rubber designed to allow full unobstructed vision in all directions: up, down, to the right or left. The fresh, cool, breathing air drawn into the mask eliminates all lens fogging and the exhalation valve prevents the accumulation of dangerous gases inside the mask.

The demand-type regulator is for all intents and purposes the same as that employed by the Army and tested through hundreds of thousands of hours under extreme service conditions. Integral with the demand-type regulator is a pressure gauge showing the amount of air remaining in the compressed air cylinder at all times. This gauge is furnished with luminous figures and can be readily seen under all normal working conditions.

The harness on the Scott Air-Pak is made of neotexed cotton webbing 2½ inches wide and equipped with snap hooks and self-locking slide buckles.

There are two types of compressed air cylinders utilized in the Scott Air-Pak: the back pack model can be installed in three or four minutes' time on the comfortable contoured aluminum back-plate. This can even be done on the back of the wearer for the interchange of cylinders in less than three minutes' time. The compressed air cylinder has an integral pressure valve which indicates the exact air pressure remaining in the cylinder and prevents using a cylinder from which the air has already been drawn.

The sling type Scott Air-Pak includes all of the features of the back pack model but is preferred for chemical laboratory work and for instant use in all areas where breathing hazards exist. It is ideal equipment for factory installation at fire fighting stations. Special wall cases for permanent installations are available for these applications.

The equipment can be used to advantage not only for fire fighting and general emergency use where breathing hazards exist or are discovered, but also offers outstanding advantages in the cleaning of tank cars, fuel tanks, in granaries, mines and in the marine field for cleaning tankers, barges, and all hulls and holds.

In these latter applications it offers a feature the value of which is really apparent to all those engaged in these industries. It is not necessary for a man to carry an air line into the area with the attendant possibilities of fouling and the restriction of free movement.

Folder on the Rockwood 500 GPM Nozzle

Rockwood Sprinkler Company, 38 Harlow Street, Worcester 5, Mass., has published a colorful folder, picturing and describing the new High Capacity Rockwood WaterFOG Nozzle (Type "B" 500 GPM) for use on turret deluge guns for fighting large fires.

This is the nozzle used in a number of tests conducted by the New Haven Fire Department in New Haven, Conn.

for "Control in Action"

Both the lining and the jacket of a fire hose are important factors in insuring reliable performance under the most extreme tests of service.

As the result of controlled curing and balanced weaving, excessive writhing, twisting and elongation of Eureka Fire Hose are prevented.

These refinements in vulcanization and weaving, together with step-by-step testing of the product during manufacture, are three of the many reasons for the long life, efficiency and dependability of Eureka Fire Hose.

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than you ever got before—

For the past 64 years we have supplied the fire fighters of America with the finest badges they have ever worn.

Now—because of the government's prohibition of the use of nickel, brass, copper, nickel plating, and chromium — we are making these badges and insignia in sterling silver, sterling silver gold plated, rolled gold on sterling silver, and 14 karat gold.

Today — for just a little more, you get a sterling silver Braxmar Badge — without doubt the best badge you can buy anywhere.

Recommend Braxmar to all your fellow fire fighters and wear one yourself.

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The blue covered catalog is the latest published but write for our new price list effective July 29, 1943. Only prices in the catalog on 14 karat gold items are still in effect. All auto plates are discontinued for the duration.

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BRAXMAR BADGES

Standard for over 66 years

C. F. Smith Joins Ward LaFrance

Carlisle F. Smith has announced his acceptance of an executive position at the Ward LaFrance Truck Division of Great American Industries, Inc., Elmira, N. Y. At Ward LaFrance he will act in the capacity of Executive Engineer.

Carlisle F. Smith

Mr. Smith's services were requested some months ago as a Technical Consultant in connection with certain secret United States Army Engineers Intelligence to be investigated in Germany and he has just returned from that investigation.

The European assignment carried with it the assimilated rank of Colonel and in the execution of this work he was directly associated with Col. William F. Powers and Major General Moore, U. S. Army Chief of Engineers, in the European Theatre of Operations. The execution of this work involved contact with numbers of German scientists, engineers, chemists and industrial executives throughout central and southern Germany, the Ruhr, the Rhineland and parts of Austria.

A graduate of Purdue University Mr. Smith has had twenty-five years experience in the fire apparatus and automotive industry as an engineer and executive. For eleven years he was with the American-LaFrance-Foamite Corporation as Factory Manager and Vice-President.

Already the Ward LaFrance plants have been converted to peacetime production, and are busy turning out commercial trucks and tractors in large quantities as well as all types of fire apparatus. In order to keep pace with accelerated production schedules the company has greatly expanded its engineering and manufacturing facilities, and work has just been completed on a new, ultra-modern office building.

Additional executive appointments include the following: D. L. Gundry, Chief Engineer of Motor Truck Division and N. G. Bjorck, Acting Chief Engineer of Fire Apparatus Division.

Hall-Scott Industrial Engines

Hall-Scott Motor Car Company, Division of A. C. F. Brill Motors Company, Main Offices and Factory, Berkeley, Calif., has issued a booklet describing its Industrial Engines, Series 400.

The booklet contains condensed specifications of the Series 400 industrial engines, with numerous illustrations and diagrams.

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INCREASING PUMPER EFFICIENCY

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PROTECT YOUR FIREMEN FROM AVOIDABLE ACCIDENTS CAUSED BY EXCESSIVE NOZZLE PRESSURES

The Nozzle Pressurater installed at the engine instantly and accurately measures velocity stream pressure at the nozzle and rate of discharge in G.P.M.

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Attention Manufacturer's Representatives. Your territory may be open.

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Echoes of the War

By Roi B. Woolley

More German 'Secret' Weapons

American and British technicians closely and quickly following the Allies' advances across France and Germany, have secured a wealth of information about German "secret weapons" on which the enemy counted so much but didn't have time to destroy.

Besides an atomic bomb, on which it is known the Germans had made considerable progress, German scientists and engineers had experimented on piloted rocket missiles that it was believed would be capable of crossing the Atlantic in seventeen minutes.

In addition, the enemy is said to have developed a defense against radar consisting of anti-radar coatings and coverings to be employed presumably to render submarines safe from detection. They were also working on a formula for new war gases they hoped would prove more deadly than any chemical agent yet developed and on a number of weapons, the secrets of which have not as yet been revealed.

* * *

N Y F D Sticks to Two Platoons

War's end has not immediately changed the working status of all New York City firemen. Patrick J. Walsh, Fire Commissioner and Chief of Department, has announced there is no immediate prospect of return of the three-platoon system. It will, he says, be restored as soon as it is "mathematically possible." There are now (August 28, 1945) 5,661 firemen on the rolls of the department, Commissioner Walsh said, with retirements averaging twenty-three a month and only a "trickle" of men returning from service in the armed forces. Restoration of the three-platoon system throughout the department would require a force of 8,647 as compared with the 5,356 needed for the two-platoon system.

All members of the department who were recalled for duty during the V-J celebration will receive conpensating time off, it has been announced.

* * *

No Hope for Atom Bomb Defense?

A majority of the scientists who participated in the development of the atomic bomb believe the new weapon confronts the United States with a deadly peril which the general public has failed to realize, H. W. Blakeslee, Associated Press science editor, believes.

"Those who have discussed defense with me say that as scientists they can offer no hope of a specific defense against the atomic bomb" Mr. Blakeslee told the Nashville Rotary Club.

* * *

14 Naval Men Die in Bomber Crash

A four-engined Navy bomber, which was being directed toward safety by radio as one engine blazed, carried fourteen men to their deaths while hundreds at the Miami Naval Air Station watched, helpless.

One crewman saved himself by parachuting from an after escape hatch before the plane plummeted to earth.

The bomber had taken off from Station ten miles northwest of Miami when observers in the control tower saw flames in the No. 3 engine. "Your engine is on fire" the pilot was told by

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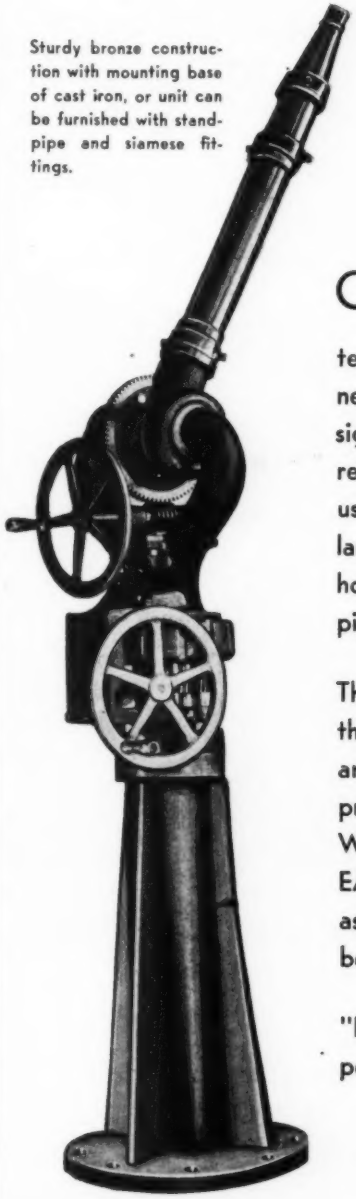
For Municipal or Industrial Use



Sturdy bronze construction with mounting base of cast iron, or unit can be furnished with standpipe and siamese fittings.

★

CHOSEN by our government for its superiority under trying war tests, this sturdy, bronze, Permanent Mounted, Turret Nozzle, designed by EASTMAN, is now again released by Uncle Sam for civilian use for fire boats, protection of large production plants, warehouses, lumber yards and for roof pipes.

The Eastman won superiority through 120 years of engineering and manufacturing experience in producing fire fighting equipment. When Uncle Sam puts his O.K. on EASTMAN products you can be assured EASTMAN means the best, for Uncle Sam knows.

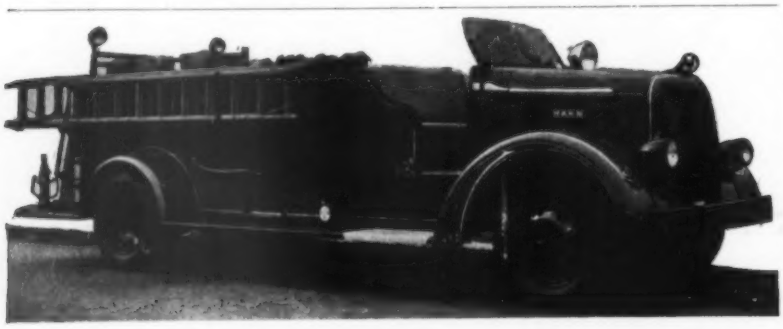
"Nothing takes the place of Experience."

★ *For further information write* ★

SAMUEL EASTMAN COMPANY, INC.
CONCORD, N. H.

This emblem, which identifies one of the Nation's most complete lines of department supplies, is known and respected wherever fire fighting equipment is used. It is the mark of thoroughly sound design and extremely high quality.

ELKHART BRASS MANUFACTURING CO. Inc.
Elkhart, Indiana



"HAHN" FIRE APPARATUS
SINCE 1907

FINEST IN THE WORLD ★ STREAMLINED ★ BALANCED CHASSIS ★ AMPLY POWERED ★ VERY EFFICIENT PUMPS WITH PLENTY IN RESERVE

HAHN MOTORS, Inc.
HAMBURG, PA.

radio, "you will land immediately on any runway. All runways are being cleared for you."

Planes in the vicinity were ordered out of the way of the distressed craft as the pilot acknowledged the message and began to turn back toward the field. The plane circled and made a normal three-engine approach, according to Navy officials; at about 500 feet, with smoke getting into the cabin, one man was observed to parachute to safety. No one else left the plane, which suddenly dived, crashed and exploded.

* * *

Hot Off the News Ticker

Russians who didn't want to return to Russia where they might have to face punishment, rioted at Fort Dix, set fire to barracks and battled guards. Three hanged themselves. . . . When a war bond show in New Orleans, La., took a too realistic turn, more than 250 spectators were burned by explosion of phosphorus hand grenades. . . . The Wacs in Ladd Field, Fairbanks, Alaska, took to wearing men's trousers when fire destroyed their barracks along with their personal effects. . . . It will take at least a year to restore the damage (over half a million dollars) done by the Germans to Westminister Abbey during London's blitzes. . . . Extensive damage was caused in Worthing, Sussex, Eng., when a delayed-action German bomb, dropped in 1940, exploded. No casualties. . . . The 4,413-ton cargo ship, Argos Hill, burned in August, 200 miles at sea from Halifax. One man reported missing. . . . London's biggest fire since the German air attacks destroyed a 5-story furniture factory; lit up the sky for miles, injured two men. . . . Three carloads of munitions exploded in Troyes, Fr., injuring ten persons, setting afire 103 cars loaded with fabrics. . . . Glenn Patterson, 52, workman of Jersey City, N. J., was killed by gas in the hold of a freighter at Pier 19, North River, New York City. A fellow workman was hospitalized in serious condition. . . . While fighting a fire in the forward hold of a 10,000-ton Liberty ship being repaired at North Bergen, N. J., two firemen were overcome by smoke. . . . At least eighty persons were killed and hundreds of others injured when a German ammunition ship on an Oslo quayside exploded. Most of the casualties were German prisoners and Norwegian guards. . . . Seventy-six thousand German mines have been taken from the coastal regions of the Isle of Guernsey in the English Channel at a cost of thirty-three casualties, thirteen of whom were killed. . . . If not already inaugurated, an early resumption of amateur radio operations may be expected momentarily. . . . It is revealed that the heaviest concentration of German flying bombs was directed against Liege, Belgium, during the past winter; 1,045 were killed and 63,652 places hit from late in November until mid-February. . . . New York City's Patrol Corps went out of business in August; at its peak in 1942 it numbered over 7,000. . . . America's only defense against the day when the secret of atomic destruction will "certainly" become the property of all nations, according to Louis Bruchiss, aerial armaments expert, is to prepare immediately for a new era of underground civilization which will be marked by vast housing and industrial areas built beneath mountain ranges. . . . Eighteen fliers died when two B-29 Superforts

collided over Texas and "lighted up the country as if you had turned on the lights." . . . Two other crew members survived. . . . Motorists are warned to go easy on speed, now that gas and speed limitations are off. This may well apply to the fire service. . . . Aerial battles between jet-propelled planes of the future will be nine miles up at 1,000 miles an hour and fighters will be in and out of range in two seconds predicts R. A. Averitt, aviation division, General Electric Company. . . . Many Federal Fire Fighters are wondering what's to happen to them, and how long their jobs will be secure, now that the war's end is hastening the closing down of airports, depots, camps, etc. . . .

* * *

Normandie Declared Surplus

The Navy has declared the former French liner Normandie which, as the U. S. S. Lafayette, burned and capsized in the North River, to be surplus and will turn it over to the Maritime Commission for bids.

In shipping circles it was considered that the cost of putting the ship in commission would be greater than her future earnings power could justify and the opinion is that barring an unlooked for decision on the part of the Maritime Commission to rebuild her, she will be scrapped. It is reported, but not confirmed, that structurally the ship suffered major damage as a result of her ordeal.

The big ship is now berthed at a Brooklyn, N. Y., pier of the Todd Shipbuilding Corp. Although the Navy has spent $11,000,000 in reconditioning the vessel, it is still lacking its superstructure and is reported far from complete in other respects as well. The total loss to the nation resulting from the fire is variously estimated at from fifty to one hundred million dollars.

* * *

Helicopter Blows Up

In Philadelphia, Pa., two men parachuted to safety, September 25, when a helicopter exploded approximately 1,000 feet above the Naval Hospital, showering debris over a wide area.

The Navy identified the occupants as Navy personnel, both of whom were taken to the Navy Hospital. Neither was reported seriously injured.

This appears to be the first record of a helicopter in the Armed Forces exploding over a metropolitan center. No resulting fires were reported.

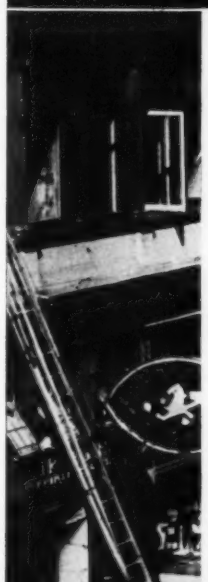
* * *

G. I.'s Die in Tragic Bus Fire

Four overseas veterans in route to Fort Devens for long-awaited furloughs were burned to death in a bus accident, September 13, in the center of Ayer, Mass., a few hours after one of them had telephoned his mother that he'd soon be home again.

Thirty-five other soldiers were injured when the crowded bus overturned and exploded only two miles from their furlough point. Early reports fail to give the cause of the accident, but the bus lurched out of control before overturning. As the soldiers scrambled out of the wreckage, gasoline pouring from the tank exploded and flames enveloped the bus. Despite efforts of rescuers, including firemen, four died as a result and one of the injured was placed on the critical list.

GOODALL FIRE HOSE...Always Ready to Back You Up!



Made from the finest available materials, and with the exacting care that is the pride of the company's craftsmen, GOODALL Fire Hose can be relied on to back you up on your toughest flame-fighting jobs. ***Quality construction*** assures the greatest possible resistance to excessive pressures, punctures, crushing and all other service hazards . . . assurance that GOODALL means "On the Job . . . LONGER".

Sizes: 1½" to 2½", inclusive. Furnished with or without Underwriters' Label.

FIREMEN'S BOOTS, COATS

"SSS" BOOTS are made for long wear and comfort. Wood "ladder shanks" reinforce arches. Wide guards at shank protect against punctures. Black slip-proof soles. Inner and outer gum knee patch.

STYLE 19 FIRE COAT is made of durable dull finish rubber. Lightweight, comfortable. Corduroy band collar, square shoulders, strap-and-buckle on sleeves. 46" long.

For 75 years, Goodall has been building hose to meet the specific requirements of every industry and service. This long experience is reflected in the performance of every length of fire hose carrying the Goodall trademark. Contact our nearest branch or main office for details.

GOODALL

THE GOODALL-WHITEHEAD COMPANIES

Philadelphia - Trenton - New York - Chicago - Pittsburgh - Boston
Los Angeles - San Francisco - Seattle - Salt Lake City - Houston

Factory — Trenton, N. J. Established 1870

Please mention FIRE ENGINEERING *when writing advertisers*

THE BEST PREVENTION—

The best prevention against future fires is to attack them before they develop, by:

1. Educating your community in Fire Prevention.
2. Constant training in use of equipment.
3. Making sure your apparatus is adequate, reliable and READY.

We appreciate the confidence shown by the many Fire Companies who make HALE Fire Pumps a "must" on their apparatus specification.

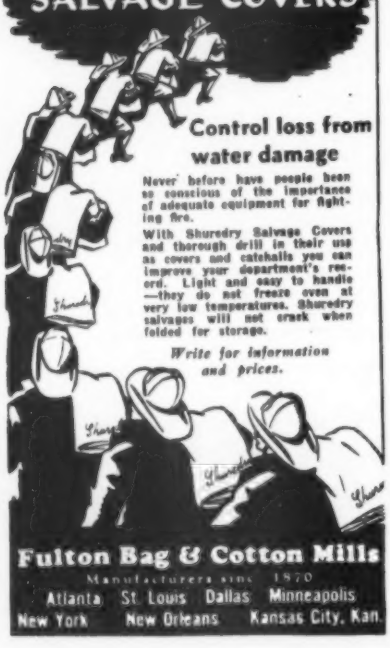
Earning such confidence is the result of consistent, reliable performance; of constant improvement through constant research; and of keeping thoroughly in step with modern engines.

FIRE PUMPS HALE CONSHOHOCKEN PA

Hale Fire Pumps are built in all Standard Capacities. Information on request.

HALE
FIRE PUMP COMPANY
Conshohocken, Pa.

USE Shuredry SALVAGE COVERS



Control loss from water damage

Never before have people been so conscious of the importance of adequate equipment for fighting fire.

With Shuredry Salvage Covers and thorough drill in their use as covers and catchalls you can improve your department's record. Light and easy to handle —they do not freeze even at very low temperatures. Shuredry salvages will not crack when folded for storage.

Write for information and prices.

Fulton Bag & Cotton Mills
Manufacturers since 1870
Atlanta St. Louis Dallas Minneapolis
New York New Orleans Kansas City, Kan.

HOSE BRASS GOODS
WB LINE
THE WOOSTER BRASS CO.
WOOSTER, OHIO

SOME WORDS FOOL YOU

like

RAISE (to erect) **RAZE** (to destroy)

BUT

WOOSTER BRASS always means the BEST in fire equipment supplies.

THE WOOSTER BRASS CO.
WOOSTER, OHIO

When you specify products bearing the TRUMPET trademark, you can SAVE and BANK on SAFETY.

Questions and Answers

Surface Tension Reducers

To the Editor:

I have just had an opportunity of reading your article, "The Post-War Fireman" in the January, 1945, issue of FIRE ENGINEERING. At present I am one of the Navy men assigned to the fire fighting program.

One paragraph in your article, however, was beyond the scope of my knowledge of fire extinguishment, and that particular paragraph was concerned with information about surface tension reducers.

If it is possible, I would like further information on this extinguishment, such as the chemicals involved, etc.

A. W. A.

Answer: Various types of surface tension reducers have been utilized in the production of fine fog. Probably the most commonly employed is Aerosol O. T.—100 per cent, which is a highly concentrated product manufactured by the American Cyanamid & Chemical Company, 30 Rockefeller Plaza, N. Y. They will be able to supply detailed information on proportions used, etc.

Pumpers in Relay

To the Editor:

Two pumpers, one a 750-gallon and the other a 1,000-gallon, are connected in relay. Static pressure at the hydrant is 25 pounds.

How would you set the pumpers? How much would be delivered to the second pumper? Could you supply two 2½-inch lines, each 400 feet long laid off the second pumper with sufficient water, using 1⅛-inch nozzles?

What factor do you use for the friction loss between pumpers?

N. R.

Answer: As the length of relay line between the first and second pumper is not given, it is not possible to determine whether or not two 1⅛-inch tips on the ends of 400-foot stretches of 2½-inch hose could be supplied by the layout.

However, we will make certain assumptions and give a solution of the maximum stretch between the first and second pumpers.

Assume 50 pounds nozzle pressure.

The discharge from each outlet will then be 265 gallons per minute, and the total discharge will be 530 gallons per minute.

The pressure required at the second engine (the one supplying the two lead lines) to give 50 pounds at the nozzle through 400 feet of 2½-inch hose would be 120 pounds.

Assume now that we are operating engine No. 1 (at the hydrant) at 120 pounds. The inlet pressure it must provide to the second engine is 10 pounds. Thus we'll have 120 — 10, or 110 pounds available for overcoming the friction loss

in the single line of 2½-inch hose between the two pumpers.

The friction loss in 100 feet of 2½-inch hose carrying 530 gallons per minute equals $2 \times Q \times Q + Q$, or $2 \times 5.3 \times 5.3 + 5.3 = 61.48$ pounds.

The maximum stretch between the engines would then be 150 feet.

If engine No. 1 were operated at 200 pounds pressure, then the maximum stretch would be 300 feet, but the nozzle pressure would have to be a little less than 50 pounds.

"Black Light"

To the Editor:

I would appreciate additional information on "Black Light" described in the May issue of FIRE ENGINEERING. *W. P. L.*

Answer: The following information has been received from Chief William Davis of the Pittsburgh Fire Department, in whose department this means of apprehending false alarms was used:

"The following is necessary for carrying out the operation:

"One 2½-ounce can Invisible Green Powder from Continental Lithographing Company, Cleveland, Ohio, @ $1.00.

"One powder atomizer from any wholesale or retail drug firm @ $1.00.

"One Black Light apparatus with case for carrying, from General Electric, Schenectady, N. Y. Chief Capes of the Pittsburgh Fire Department has expended in the neighborhood of $85.00 for this lamp but even a GE Purple X bulb, price $1.50, will suffice.

"A 2½-ounce can of the Cleveland firm's powder should last a year or more."

Reconversion Hazards

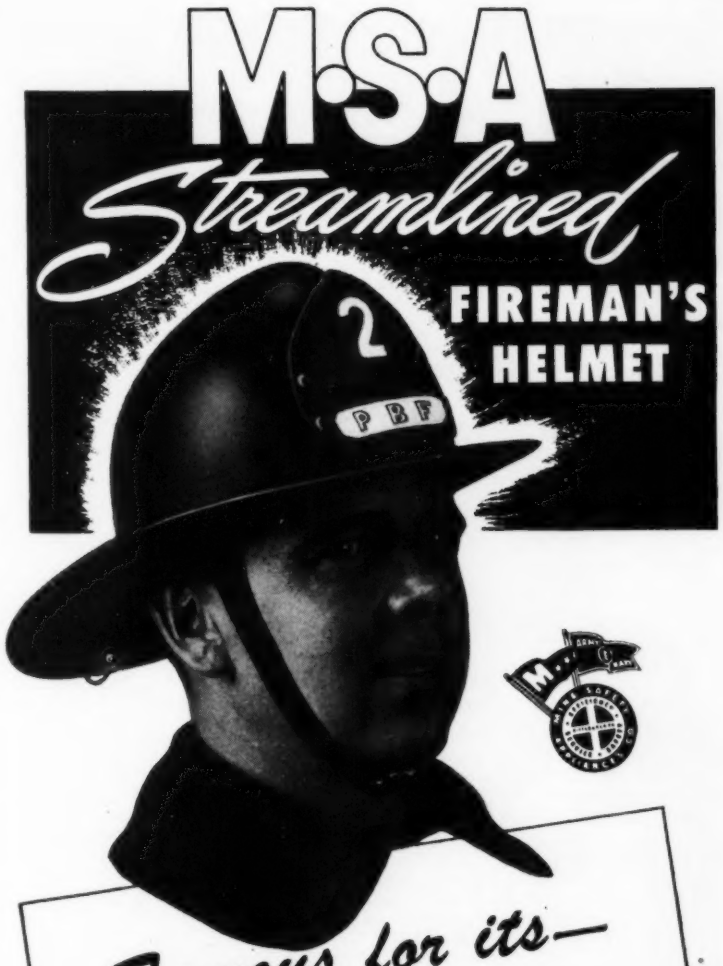
The Factory Insurance Association, of New York, recently issued a bulletin which points out fire hazards incidental to plant reconversion.

The following hazards are pointed out:

1. Idle buildings without adequate supervision and watchman service.
2. Use of cutting torches to remove machinery, equipment or structures.
3. Unauthorized closing of sprinkler control valves or other curtailment of fire protection.
4. "Borrowing" of fire hose, nozzles, buckets, etc., for use on removal or construction work.
5. Accumulation of combustible material and other "poor housekeeping."
6. Adaptation of existing machinery and equipment to new and hazardous processes without proper safeguards.
7. Introduction of new materials and processes involving unfamiliar hazards.
8. Construction changes without necessary changes in fire protection equipment.

Fire Hits Packard Plant

A three-alarm fire swept through one floor of a Packard Motor Car Company building in Detroit, Mich., on September 20, causing damage estimated at $350,000. At least half of 550 gear grinding machines on the floor were badly damaged. The machines made gears for Rolls-Royce aircraft engines during the war.



Famous for its—

- PROVED HEAD SAFETY
- TRIM APPEARANCE
- EASY FITTING COMFORT
- TOUGH DURABILITY

The handsome M.S.A. Streamlined Fireman's Helmet gives *better* head protection to the fire fighter. One-piece molded of tough, laminated bakelite, the Helmet is highly resistant to fracture, and is built with a reinforcing ridge at the top of the crown which adds to the Helmet's great natural strength. Arched brim is wide at the sides for extra protection, yet permits carrying material on the shoulders; extra length at the rear guards the neck from hot water, embers and debris. You'll find every detail checks with the needs of the job, plus *comfort*, too!

WRITE for descriptive Bulletin DX-5.

MINE SAFETY APPLIANCES COMPANY
BRADDOCK, THOMAS & MEADE STREETS PITTSBURGH 8, PA.
District Representatives in Principal Cities
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M&H

HYDRANTS
VALVES
and
Pipe Line
Accessories

A. W. W. A.
HYDRANTS
Underwriters Approved

Conform to American Water Works Association specifications. Approved and listed by Underwriters' Laboratories and Associated Factory Mutuals. Well known and widely used for many years.

SPECIAL TRAFFIC MODEL (shown at right) is designed to yield at ground line under impact, repair being simply renewal of breakable bolts and breakable coupling on stem. Dry top, revolving head, easy to lubricate. High efficiency because barrel diameter not reduced and there are no working parts or obstructions in waterway.

VALVES: A. W. W. A. types, iron body, bronze mounted with double-disc parallel seat or solid wedge type. Non-rising stem, outside screw and yoke; or with sliding stem and lever. Also furnished hydraulically operated. Square Bottom type operates in any position. All are rugged and dependable, made of best material with highest quality workmanship.

M&H VALVE
AND FITTINGS COMPANY
ANNISTON, ALABAMA

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada, for the month of September, 1945.

Month Ending September 30

Winnipeg, Man.—Sigurdson Construction plant damaged.
Montpelier, Vt.—Main bldg. of State Arsenal destroyed. Lightning.
Martinsville, Va.—Storage bldg. of American Furniture Co., destroyed.
Detroit, Mich.—Wood products plant of Henry V. DeGalen Co., destroyed.
Morristown, N. J.—Bldg., occupied by Schulte-United; National Shoe Stores; Hyman Botkin, jeweler; Margay Shop; Jodo Stationery Store; Albert's Jewelers; Donner's knitted goods store; Weston Biscuit Co.; dental offices of B. Burke; two rooming establishments; three private apartments and old Washington Hall, damaged.
Grandview, Wash.—Seedless Hop Ranche damaged.
Des Moines, Ia.—Storage room of Beatrice Creamery Co. plant destroyed.
Berlin, Md.—Local flour and feed mill and freight car on adj. railroad siding of Berlin Milling Co., destroyed. Spontaneous ignition.
Berthold, N. D.—Farmers Grain elevator destroyed; Great Northern Railway depot, Midwest Lumber Co. bldgs. and rooming house damaged.
Rigging, Ida.—Post office block destroyed.
Sumner, Wash.—Sumner Washington Packers damaged.
St. Tite, Que.—Sash and door factory of J. W. Dessureault, forty miles north of Three Rivers, destroyed.
St. Louis, Mo.—Six tank cars of Naptha and oil on outbound Illinois Central freight train destroyed.
Burlington, Ia.—Plant of Tabor-Burns Co., Inc., paper box manufacturers.
Charlottesville, Va.—Main bldg. of Laird & Co.'s distilling plant, North Garden, destroyed.
Eureka Springs, Ark.—F. O. Butt bldg. occupied by Neal Walters Poster Co.; Law offices of F. O. Butt and his son, Chancellor John K. Butt; destroyed; adj. bldg. of Allred Hotel and contents damaged.
Middletown, Ohio—Truck and trailer of National Transit Corp., destroyed.
Vancouver, B. C.—Five-story bldg. occupied by Pioneer Envelope Co., damaged.
Thomasville, Ala.—Saw mill plant of B. A. Cogle Lumber Co., destroyed.
Glendale, Cal.—Bldg. occupied by Glendale "Star" newspaper office; Glendale Red Cross hdqts.; Dr. W. C. Darnell, dental office; book and music shop; Margie Lee, beauty salon; Mariel's peasant clothes; George Haney, bendix shop; North Accounting Service; John W. Knight ins. agency; George Bentley realty office, and Stillman printing plant, destroyed.
Pekin, Ill.—Mill bldg. of American Distilling Co., destroyed.
Sacramento, Cal.—Markwart Co. construction yard, destroyed. Boys playing with matches.
Ocean City, N. J.—Cabin cruiser Watchea, five miles away, destroyed.
Rimouski, Que.—Eighteen carloads of lumber and planing mill of La Perelle Lumber Co., and four dwellings destroyed.
Bakersfield, Cal.—J. A. Sinnplott Dehydrating Plant, one mile east, destroyed. Leak in butane line.
Millerton, N. Y.—Barn and other farm bldgs. on Hidenhurst estate, owned by Vincent Fitzgerald, destroyed.
Portland, Tenn.—Unfinished booster station of Tennessee Gas & Transmission Co., damaged.
Seguin, Tex.—Seguin Cotton Compress and 3,500 bales of cotton destroyed.
Vancouver, B. C.—Pioneer Envelope Co. destroyed.
Kittitas, Wash.—Massie Warehouse Co. destroyed.
Holiday, Tex.—Holiday Public School destroyed.
Chicao, Cal.—Drive-in-market of Lloyd Mulkey damaged.
Walnut Creek, Cal.—Art treasures in two bldgs. of estate of Milton Vanderslice destroyed.
Plaquemine, La.—Osage Theatre, destroyed.
Jackson, Tenn.—Bldg. occupied by Wahl's slipper shop, Grady's jewelry store, Court Alley Cafe, and Williams' shoe store damaged.
Toronto, Ont.—Plant of Northern Pigment Co., Alderwood Etobicoke Township, damaged. Oil furnace dryer became overheated.
Lake Wales, Fla.—Warehouse of Florida Citrus Canners Cooperative destroyed.
Willits, Cal.—Resort of Riverdale, fifty miles

Save Valuable Plants and Materials

Fyr-Fyter equipment has proven its value in preventing small fires from becoming disastrous through the loss of life and property. Recent catastrophic fires with terrific loss of life emphasize the urgent need of fire protection. A complete line of UNDERWRITERS LABORATORIES Labeled FIRE EXTINGUISHERS.

HELP SAVE LIVES AND PROPERTY

Get Fry-Fyters for safety sake. We advise and serve manufacturing plants, public institutions, etc., immediately. Write us today regarding Fyr-Fyter equipment for your own protection.

THE FYR-FYTER COMPANY
Dept. 101-10, Dayton 1, Ohio

BONDS BUY Fyr-Fyter

JANESVILLE QUALITY
TURN OUT CLOTHING

Our turnout suits are giving excellent satisfaction in most of the large fire departments throughout the U. S. and

THERE MUST BE A REASON WHY SO MANY FIREMEN INSIST ON JANESVILLE QUALITY

NOW AVAILABLE!
We can now supply old type ¾ Felt-lined Firemen's Boots.

JANESVILLE APPAREL CO.
JANESVILLE, WIS.

north, and highway dwellings of Clarond Rhea, William Heagney and Elmer Shuster, destroyed. Brush and timber fire.

Carrollton, Ga.—The Playhouse, a theatre, and restaurant operated in connection with theatre, destroyed.

Greenville Junction, Me.—Old YMCA bldg., occupied by Moosehead Woodcrafters, destroyed.

Seat Pleasant, Md.—F. L. Watkins Co. warehouse damaged.

Rib Lake, Wis.—Rib Lake Lumber Co. planing mill destroyed.

Salem, Ore.—Lakebrook hop dryer destroyed. Short circuit.

Moxee City, Wash.—Desmarais hop kiln destroyed.

Montreal, Que.—Farand & Delorme div. of U. S. Steel Corp., damaged.

Rome, Ga.—Bldg. occupied by Ford's Market, Todd Grocery Co., Sherwin-Williams Paint Co., Rome Cleaners, The Boston Store, Lula Strange Abbot's shop and dental office of J. D. Moreland, damaged.

Houston, Tex.—Chemical Compound and Acme Supply Co. damaged.

Timmins, Ont.—Rudolph McChesney lumber mill damaged.

Ketchikan, Alaska—Canadian National liner Prince George damaged.

Pomona, Cal.—Plant of Pomona Tile Mfg. Co. damaged. Gas from leaky furnace.

Los Angeles, Cal.—Rug cleaning dept. of City Dye Works destroyed; remainder of plant smoke and water damaged.

San Francisco, Cal.—Leo J. Meyberg radio and electric supply house destroyed.

Bogalusa, La.—Mackie Pine Products Corp. damaged. Explosion in extraction drum.

Haverhill, Mass.—Dwelling of Patrick Hayes destroyed.

Lowell, Mass.—National Atlantic Research Corp. destroyed. Leak in vat of burning oil.

Wichita, Kans.—Hangar and forty airplanes at Municipal Airport destroyed.

Lodge Grass, Mont.—Sheridan Flour Mills elevator destroyed.

Boydton, Va.—Boydton Manufacturing Co. destroyed.

South Bend, Ind.—Three-story downtown bldg. damaged. Included restaurant, Bunte shoe store, bus depot and several small shops.

Lafayette, Ind.—The Joe Ardapple warehouse, storage and transport plant destroyed. Spontaneous ignition.

Oroville, Wash.—United Growers warehouse destroyed. Defective wiring.

San Francisco, Cal.—Eight apartment bldgs. destroyed.

Alliance, Ohio—Elks Club damaged.

Oakland, Cal.—Hopkins Theatre destroyed.

Tama, Ia.—Office bldg. of J. H. Neil creamery destroyed.

St. Paul, Minn.—National Lumber Co. yards damaged.

Repercussions in Richmond, Va.

Repercussions of the Empire State Building, Army bomber crash, have been felt throughout the country. As a result of this disaster, many municipal fire chiefs have reviewed the protective facilities of tall buildings of their cities and some have requested improvements to better enable them to fight fires that might occur in such structures should airplane crashes ensue similar to that which occurred in New York.

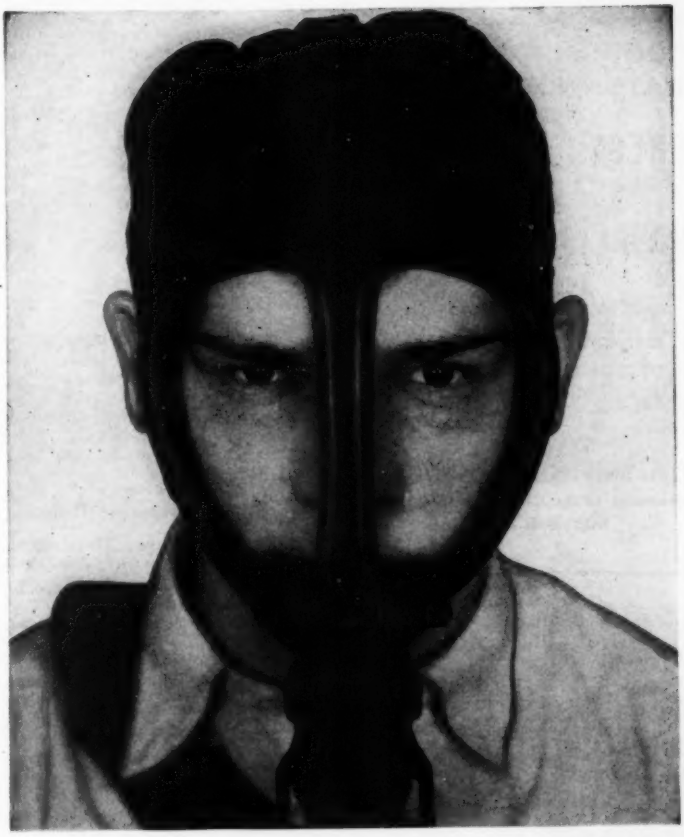
One of the chiefs who wasted no time resurveying his city is J. F. Finnegan of Richmond, Va. After his study revealed that some of the taller buildings in Richmond were not equipped with standpipes for use in case of fire on upper floors, he sought an opinion of City Attorney Horace Edwards on the legal requirements necessary to secure the installation of wet standpipes with the necessary outlets and hose at various locations in all tall buildings not now so equipped.

According to the City Attorney, there is no present provision in the city law requiring the installation of this type of standpipe and equipment in any buildings.

It has not been revealed whether or not the city will attempt to secure the adoption of such an ordinance.

Approved by the U. S. BUREAU of MINES

FIREMEN! With this approval the Acme Type "FD" FULL VISION All-Purpose Gas Mask provides you with Safety and Comfort—Plus Non-Distorted FULL VISION which you need when fighting fires. The Acme Canister protects you against Carbon Monoxide, Organic Vapors, Acid Gases, Ammonia Fumes, Toxic Smokes, and Smoke Suffocation.



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Manufacturers
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SIRENO
PRECISION MADE ELECTRIC SIRENS
THE UTMOST IN DEPENDABILITY AND LONG LIFE
THE SIRENO CO., Inc.
214 WILLIAM STREET
NEW YORK CITY

SIRENO WITH 7" RED FLASHING LIGHT

"ALL AMERICAN CHOICE"

INVINCIBLE NOZZLES

PORTABLE EQUIPMENT IS THE WATCHWORD TODAY

PREPARE—PROTECT BUY INVINCIBLE NOZZLES

and enjoy the benefits derived by experience of pioneers in the nozzle field.

F. N. McINTIRE BRASS WORKS
Successors to A. J. Morse & Son, Inc.
BOSTON, MASS.
1837 — 1945

The element of time is of first importance in the successful treatment of burns. If a burn is treated within 15 minutes after it occurs, the probability of blister formation is reduced to a minimum. But if time is wasted before proper treatment is started, serious complications and infection may follow.

When using Gebauer's TANNIC SPRAY in the treatment of burns, the factors involving time-loss are eliminated. This preparation is a stable solution of tannic acid ready for immediate use. Packaged in a sturdy amber bottle having an automatic dispensing cap, which permits the projection of the solution in the form of a fine jet stream. Upon application the solvent evaporates rapidly, covering the burn with an evenly applied, dry and flexible film of tannic acid.

Gebauer's TANNIC SPRAY is a practical *first* first-aid treatment for first, second, and small area third degree burns. Write for literature.

THE GEBAUER CHEMICAL CO.
9410 St. Catherine Ave. • Cleveland 4, Ohio

The Watch Desk

(*Continued from page 775*)

been missing since September 3. Magistrate Hockert sentenced Warner, y-clept Speedy, y-clept Captain, to ten days in the jailhouse, but suspended sentence on condition that hereafter he will leave police business to the police, even if action is slower in coming!

* * *

"Hot" News Story?

John C. Sivilo, 39 years old, of the Bronx, a proof press operator in the advertising composing room of the New York Times, was severely burned while working on the night shift.

In some unexplained manner, it's said, a "quantity of chemical used to clean type" was ignited near Mr. Sivilo's machine and flames set his clothing afire. He started to run but another employee tackled him, rolled him on the floor and ripped off his clothing.

After first-aid treatment at the plant's medical department, the victim was rushed to the hospital, where it was found he had suffered third degree burns of hands and legs and slight burns of the face. It was said he would recover.

The heat from the burning "chemical" caused a unit of the automatic sprinkler system to go into operation and a considerable section of the composing room was flooded.

By any chance could that "chemical" have been gasoline?

* * *

Fable of the Disappearing Fireboat

Once upon a time there was a fireboat. It wasn't a very big fireboat as fireboats go—measuring only 35 feet. It wasn't very powerful, but its 20-H.P. served to get it around the estuaries of the City of Oakland, and through the railroad drawbridge.

Just how much or how little it could pump, our story-teller fails to say.

Well, of all things—this little fireboat disappeared. One day it was there—and the next it wasn't! It faded right out of the picture! Which, of course, made the City of Oakland, and its Fire Force considerably non-plussed, if not completely obfuscated. Search failed to find it in its accounted place—or anywhere thereabouts!!

The search was widened, and broadened. It took the searchers 'way out to the mud-flats, where only the gulls (and boys) play! And lo and behold, there was the City of Oakland fireboat, high and dry on the flats.

According to our "anonymous" contrib', the press reports said that "it must have been abandoned there by an experienced seaman-thief, who knew the right whistles to get the launch through the estuary draw-bridge."

And, so, children, that's the end of the tale of the wandering little fireboat, of the City of Oakland!

* * *

Costly False Alarm

In Lansing, Mich., thirty-eight persons were injured September 15, when a fire truck, responding to a false alarm of fire, crashed into a bus jammed with shoppers. Only one passenger, a twelve year old girl, was injured critically.

Witnesses said the bus was so crowded it was impossible for the driver to see to his right. They estimated that sixty persons were in the vehicle, which had a seating capacity of thirty-five.

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PREVENTS CHIMNEY FIRES • • • •

PUTS CHIMNEY FIRES OUT • • • •

Soot and creosote causes most chimney fires. Chief, you can prevent and fight these fires the modern way; Spare your boys the danger of rushing to chimney fires, and climbing over wet, slippery, icy roofs — just throw one package of IMP on the burning embers of furnace, stove, or fireplace and the chimney fire is out in a few seconds. Fire Chiefs all over the country use IMP. They praise and recommend IMP more than we do as the most economical and greatest chimney fire extinguisher in the world. IMP has given 48 years of honest service. Costs only 55c. per package. You can even sell IMP if you wish to.

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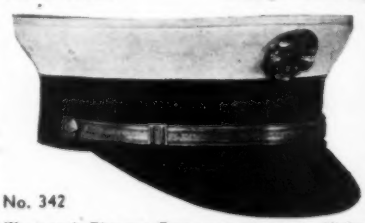
FIREMAN'S UNIFORM CAPS
Union Made Prompt Delivery



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Wentworth Fireman Caps are made of the Highest Quality Standard Materials available and by the Best Skilled Union Craftsmen in all the New and Standard styles. Our 50 years of experience and skilled workmen guarantee you AMERICA'S GREATEST CAP VALUE in all WENTWORTH FIREMAN CAPS.

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Write direct for latest circular and prices or see your local dealer.

WENTWORTH-FORMAN CO., INC.
578b Washington St., Boston, Mass.
Manufacturers
Fireman Cap Specialists for Over 50 Years

Wind and Fire

(*Continued from page 748*)

apparatus and men. The request was received by the Miami Fire Department about half an hour prior to the alarm for the serious fire at 17th Avenue and 21st Street, and while the Department was attempting to respond to calls for help within the city confines.

Miami Unable to Send Aid

The department was informed by the officer at the base that the Field structures were burning up and that they must have aid at once. To this request, the department replied that with a 125 to 130 mile wind blowing, as reported in the area, and attendant adverse conditions, together with the fact that it would be necessary to travel all of twenty miles through the storm—the distance from Miami to the Field—that by the time the Miami forces would reach the scene everything that had not burned would probably be blown away anyhow; further, that Miami itself was confronted with a critical fire hazard problem which it must face; therefore the department could not send help, much as it regretted not doing so.

In view of what actually transpired, had the city attempted to send aid, weakening its own forces already crippled by failure of the water and communication systems there is no telling what the outcome might have been. Under the conditions, one can hardly question the decision of the commanding officers of the department to devote all their efforts to first protecting their own municipality.

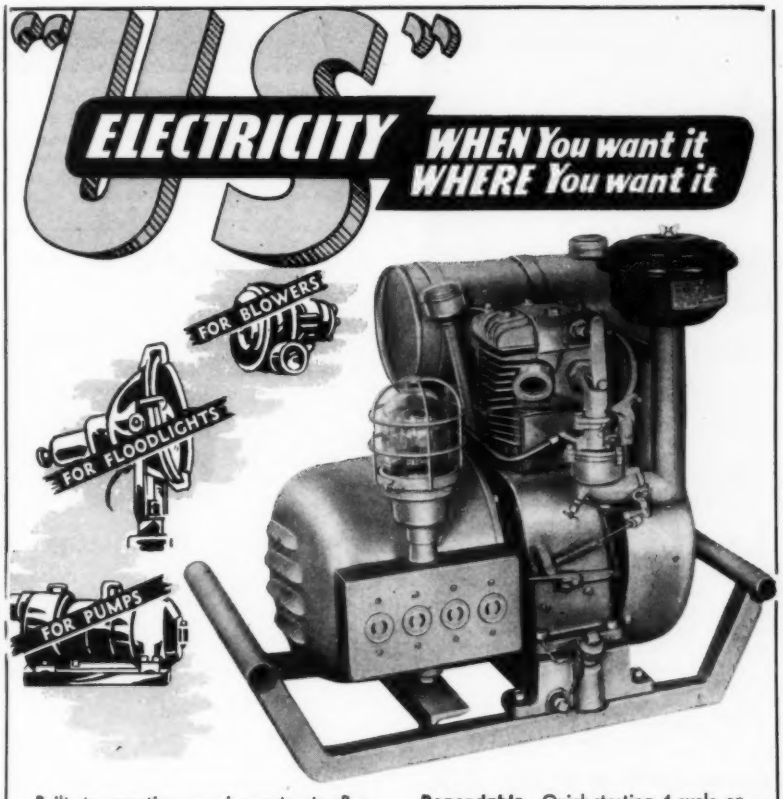
It is disclosed that there was not adequate water supplies at Richmond Field to cope with any such fire as occurred in the hangars even without the handicap of the high winds. This lack had been called to the attention of the engineers by men versed in fire-fighting but it is said nothing was done to remedy the deficiency. It is reported that the Field protection system had about a 2,500 gallon-per-minute capacity; however there were available several wells located around the hangars and it is understood these were used in the attempt to extinguish the fire.

Conclusion

If ever a catastrophe demonstrated the need of forethoughtful thinking and preparedness, this one did. Yet we are told that when the winds had finally abated and the municipal fire department was able to take stock of the damage done, it was found that, of its fifteen fire alarm circuits, only two were still functioning.

That fire fighting in time of a hurricane of such proportions and under conditions as we have described is an ordeal, to say the least, is attested by the concluding paragraph of a letter from Chief Henry Chase. He says: "In closing, the best I can say to my fellow chiefs throughout the world is that they do not have such an experience, for it certainly will put a few more gray hairs in even the grayest of heads. Besides," he concludes, "I don't like that funny feeling that runs up and down your backbone."

A parson at the funeral service: "We have before us only a shell—the nut is gone."



Built to exacting requirements—to fire department specifications. . . . Designed to stand up under the hard usage and difficult conditions a Fire Department Portable has to meet! In service with leading fire departments, these rugged 1500 watt Units have ***proved*** themselves capable of meeting every emergency.

Dependable. Quick-starting 4-cycle engine. Positive lubrication.

Start it and forget it! Automatic voltage regulation under all loads. No adjusting necessary. No fussing to mix gasoline and oil.

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Motor-driven with ¾ h.p. gear head motor.

★ Expands couplings from ¾" to 6" size.

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Extra attachment removes old expansion rings from old couplings. No manual effort needed. ★

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FOR ANY OLD HYDRAULIC EXPANDER

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DAYTON FIRE EQUIPMENT CO.
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Rates are inexpensive. "For Sale," "Proposal" and "Wanted" advertising, $5 per inch insertion (10% discount allowed for three or more consecutive insertions). FIRE ENGINEERING, *24 West 40th Street, New York 18, N. Y.*

WANTED

Wanted—Well informed man with fire department experience and sales ability, age 25 to 45, to be sales manager to distributor of leading line of fire apparatus and equipment. Formal education not as important as ability to make friends and sales. Territory consists of Missouri, Arkansas, Kansas, and Nebraska, and requires traveling most of time. Salary, expenses and bonus. On reply give full particulars, including photograph. All replies will be confidential if desired. This is an opportunity for the right man. Address 403 Commerce Trust Bldg., Kansas City 6, Missouri.

WANTED SALES MANAGER

Wanted at once by fire apparatus manufacturer, first-class Sales Manager. Only first class and experienced need apply. Write Box 55, c/o FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

FOR SALE

Leaderline Sets, 200 ft. 1½" d.j. fire hose, water thief, 2 combination nozzles, Fog or straight stream or shutoff, complete for $199.00 prepaid. Hose only 75c. per ft. Doray Fire Equipment Company, 1924 Valley Drive, Syracuse, N. Y.

WANTED

Fire Equipment Dealers to sell Morning Pride protected rubber firecoats, fire pants, fire mitts and fire suspenders.

Write today Morning Pride Mfg. Co., 1986 Home Ave., Dayton 7, Ohio.

CHIMNEY POWDER

No need to send men on the roof for chimney fires. Has-Mor Soot Destroyer not only puts the fire out, it continues to work until it cleans the chimney, making it unnecessary to go back to another chimney fire. Put up in handy packages. Agents wanted. Harry S. Morgan, 52 Broad St., Johnson City, N. Y.

POSITION WANTED

Engineer—M.E.-Fire Protection—20 years experience design, specifications, tests, water supply, sprinklers, inspections, reports, losses, fire department organization and training. Able to take complete charge of comprehensive program as chief engineer or chief inspector. Write Box 75, c/o FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

FOR SALE

3—10 inch Gamewell Fire Alarm electric mechanical turtle gongs in good condition. Write for price. Chief Edw. J. Hart, Bureau of Fire, Endicott, New York.

FOR SALE

1—1925 Service Fire Truck; 1—1916 Hose & Chemical Wagon. Both American LaFrance trucks. Contact Fire Chief Harold Bierman, Muscatine, Iowa.

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FIRE ALARM BOX

IT'S DIFFERENT
IT'S BETTER!

Highest quality, made of cast aluminum inside as well as out. This makes for fast, light, easy installation and long life, free from corrosion.

They are equipped with quick action doors, and are non-interfering of the shunt and successive type circuit.

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FIRE HOSE DRYER

- Is easier to use
- Saves drying time
- Reduces hose stretch
- Prevents mildew and rot
- Improves building design
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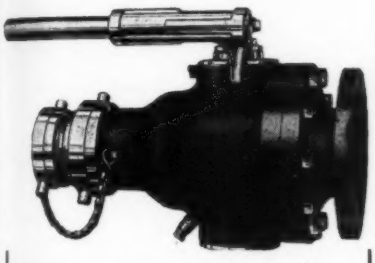
DETROIT 11, MICHIGAN

Safe...
Efficient...
The VALVE for the job!

KEROSPHERE
PUMPER
DISCHARGE VALVE



EASY TO OPERATE UNDER HIGH OR LOW PRESSURES

KEROSPHERE
proved advantages include:

- Quarter turn to open
- Will not creep in any throttled position
- Non-freezing at low temperatures. When valve is in closed position it seals on the pressure side of the line and water from the interior of the valve body can be discharged through drain cock
- Non-chattering
- Double seat shutoff
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- All pulsating stresses automatically compensated by flexible seat units
- Fire Hose drain plug
- Available in 2½" and 3" sizes

Write for descriptive bulletin.

KEROTEST
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These American LaFrance units traded in for new Pirsch apparatus are in good serviceable condition, yet priced low enough to make them good buys even to be salvaged for spare parts if you have similar models.

2— 750 Gallon Rotary Pumpers
1—1000 Gallon Piston Pumper
1—1000 Gallon Rotary Pumper
1—85-ft. Aerial Truck
1—City Service Truck

Dan McAllister, 1901 N. Fitzhugh Ave., Dallas, 4, Texas. Phone Taylor 8054.

FOR SALE

Siren No. 5—5 H.P. 220 Volt single phase with remove control switch. Almost new. Give us your bid. Board of Selectmen, Town of Dartmouth, So. Dartmouth, Mass.

SALESMEN WANTED

Salesmen wanted by old established company experienced in the sale of fire protection equipment and fire department supplies and equipment. State age, experience, and full particulars. Write Box 80, c/o FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

WANTED

Back issues of Fire and Water Engineering between 1915 and 1930; whatever issues available. Also old photographs or pictures of horse drawn and motorized fire apparatus.
Benedict I. Stevens, 146 Duke St., Kearny, N. J.

Wins National Safety Award

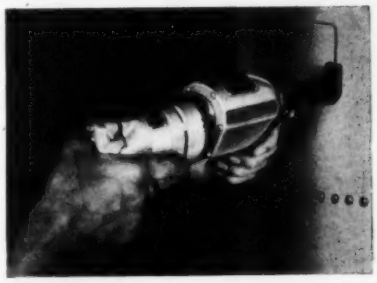
ELECTRICITY ON THE FARM, one of the family publications published by Case-Shepperd-Mann Publishing Company, will receive the National Safety Council's Award of Honor for Distinguished Service to Safety in the first National Farm Safety Magazine Contest, conducted as a part of nationwide observance of National Farm Safety Week, July 22-28, 1945.

According to information from the National Safety Council, "although ELECTRICITY ON THE FARM naturally devoted a large proportion of its material on farm safety, to safety in connection with electrical devices, lightning insulation, and the like, it covered other fields as well, with articles and pictures. The Judges were unanimous in the choice of ELECTRICITY ON THE FARM as winner among competing national magazines. The judges were: Keith Himebaugh, Director of Information of the United States Department of Agriculture; Bristow Adams, former Professor of Agricultural Journalism at Cornell University, and Maynard H. Coe, Director of the Farm Division f the National Safety Council.

Canadian Fire Losses

Fire losses in Canada in August were $8,202,725, as compared with $4,346,550 in August, 1944, according to the Monetary Times. For the first eight months of this year they were $38,295,212 and for the corresponding period last year $26,154,200.

THE NEW
SAW-GUN
SHOULD BE STANDARD
ON ALL
FIRE-FIGHTING EQUIPMENT



Here's Why..!

The Saw-Gun is a portable power-saw that will quickly cut into all metals, wood and other materials. Quickly attaches to any electric or air drill, and may also be propelled by a flexible shaft. Insert ordinary hack-saw blade for cutting.

Firemen equipped with this handy tool can now get at the fire quickly. Can cut openings into obstructions regardless of their material. Cuts rapidly through heavy gauge steel. No need to waste precious time removing steel gratings . . . cut them out of the way with this amazing portable tool. Does away with slow, cumbersome, dangerous gas cutting torches, together with their long lines of hose and heavy tanks.

Progressive fire-chiefs who know the importance of getting at a fire *fast*— who want a quicker means of getting to entrapped persons, will add the Saw-Gun as standard equipment.

ONLY $42.00
QUICK SHIPMENTS ON AA-5 PRIORITY OR HIGHER

Sold on Money-Back Guarantee

SEE YOUR JOBBER or WRITE DIRECT
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SENSIBLE LUG COUPLINGS

Sensible in every sense of the word!

Sensible because they cannot catch in ladders, etc.

Sensible lugs are designed to glide *over* obstacles.

Sensible because they cannot wear or mar stacked hose.

Sensible because they are easier to couple up.

Sensible because they are made of sturdy brass.

We have for over 50 years believed nothing is too good for the fire service. We make and sell nothing but the finest fire equipment money can buy.

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Phones 93 & 94 Charles Town, West Virginia
Established 1892

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OCTOBER, 1945

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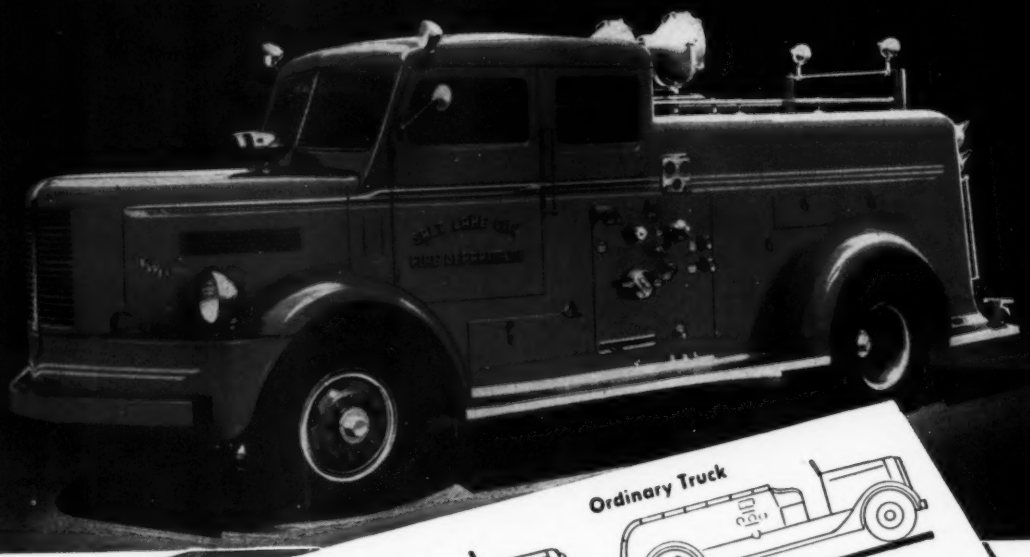


FWDs FIRST

in Speed
in Safety
in Power

FWDs GIVE YOU FASTER GET-AWAY

FWD power on all four wheels makes full use of all the engine power for acceleration. All four wheels grip the road for the get-away as well as for the run. FWDs eliminate the hazards of slippery streets that ordinarily would cause wheel-spin and delay. All the weight of the truck and its load is converted into powered traction with FWDs, whereas only a fraction of an engine's full performance ability is utilized on trucks dependent on only one axle for traction. Seconds count! FWDs win!

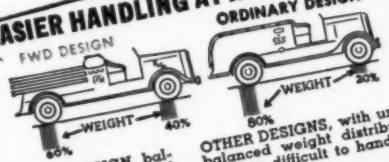
WRITE FOR LITERATURE

THE FOUR WHEEL DRIVE AUTO COMPANY, Clintonville, Wis.

Canadian Factory: KITCHENER, ONTARIO

FWDs Go Where Other Vehicles Fail
NO ROADS TOO TOUGH OR STEEP FOR FWDs

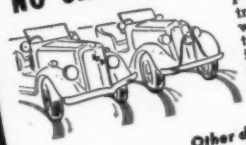
EASIER HANDLING AT HIGH SPEEDS



FWD DESIGN balances weight on all four wheels . . . assures easy handling at any speed.

OTHER DESIGNS, with unbalanced weight distribution are difficult to handle at high speeds.

NO SKID, NO SLIP, NO SLUE!



Powered steering traction holds front wheels to direction of turns, thus minimizing skid-danger. Skidding tests conducted on ice show 50% less skidding.

FWD . . . non-skid.

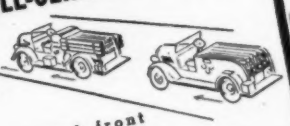
Other designs more liable to skid.

QUICK, POSITIVE, SAFE EMERGENCY STOPS

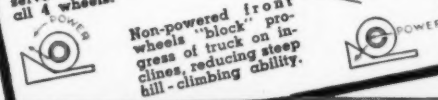
FWDs have two separate and independent 4-wheel braking systems, with brake drums on each wheel. Combined with properly balanced weight distribution, these provide the most effective braking possible.

GREATER HILL-CLIMBING ABILITY

FWD's front wheel pulling power increases hill-climbing ability. Reserve traction in all 4 wheels.



Non-powered front wheels "block" progress of truck on inclines, reducing steep hill-climbing ability.



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GETS TO FIRES FASTER and SAFER!

INSTANT EXPANSION OF ENERGY FROM ATOMIC BOMBS STOPPED THE JAPS!

Instant EXPANSION

OF WATER FROM

AU-TOMIC FOGNOZL*

STOPS FIRES!

THE FAMOUS GRISWOLD ORIGINAL
ALL-PURPOSE FOGNOZLS* THE NEW SERIES
4NAP FOGNOZLS*

THEORY OF EXPANSION USED BY
FOGNOZLS* FOR TWENTY YEARS

UNIFORM PARTICLES OF WATER FROM AUTOMIC FOGNOZL*

STOPS FIRES!

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